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ABSTRACT

The research described in this report, part of a professional experience program funded by Brisbane (Australia) College of Advanced Education, was undertaken to investigate the incidence and causes of high stress levels among secondary students in Queensland, and to recommend ways of helping these students reduce stress or cope with it more effectively. The study originates from an analysis of 1,664 questionnaires distributed to students from seven secondary schools. After an introductory overview of the background, implementation, results, and professional outcomes of the study, chapter 2 provides a detailed review of the literature on stress, including an analysis of some of the more widely acclaimed theories of stress. Chapter 3 describes data collection methods, involving the use of four questionnaires: the Australian Adolescent Problems Inventory (AAPI); the Adolescent Coping Inventory (ACI); a General Health Questionnaire (GHQ-12); and a Biographical Information Checklist (BI). Chapter 4 desribes data analysis procedures, while chapter 5 tabulates results. Chapter 6 presents a discussion of the findings, as these relate to strategies for reducing environmental stressors among Australian adolescents and for helping them to cope with stress more effectively. The concluding chapter presents a set of 19 specific recommendations for educational decision makers. The study includes instrumentation along with instructions given to participating teachers and data analyses employed. (TE)

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AN INVESTIGATION OF THE IMPORTANCE OF STRESS AS A FACTOR IN THE ACADEMIC PERFORMANCE OF AUSTRALIAN ADOLESCENTS

REPORT TO THE COUNCIL OF THE
BRISBANE COLLEGE OF ADVANCED EDUCATION
FOLLOWING A PROFESSIONAL EXPERIENCE PROGRAM
DURING SEMESTER 1, 1988.

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27th April, 1989.

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CHAPTER 1: OVERVIEW

A. BACKGROUND:

The reaserch described in this report was conducted as part of a professional experience program (PEP) funded by Brisbane College of Advanced Education (BCAE). The purpose of the program was to conduct research into stress among Queensland secondary students. The project evolved from a consideration of recent overseas and Australian literature which suggested that environmentally-induced stress, particularly in relation to schooling and employment, was becoming an increasingly disturbing factor in the lives of teenagers. **[See Chapter 2]**

The specific aims of the research, which was conducted in a large provincial city in South-East Queensland, were:

1. to investigate the incidence of high stress levels among secondary students in Queensland;
2. to gain insights into the major causes of stress among Queensland secondary students;
3. to determine whether there are identifiable groups of Queensland secondary students who are more stressed than others; and
4. to make recommendations about ways of: (a) reducing stress for Queensland secondary students; and (b) helping Queensland secondary students to cope with stress more effectively.

The broader goals of the program were:

1. to make a significant contribution to Australian research on adolescent development;
2. to extend and update the author's knowledge and awareness of a broad range of current issues in adolescent development and education in Australia;
3. to seek new material for inclusion in the compulsory education studies and psychology units in the Diploma of Teaching and Bachelor of Education courses at BCAE;

4. to become more aware of students', parents', teachers', and principals' perspectives on secondary education in Queensland;

5. to make an informed statement, on the basis of the findings of the project, about future directions for Queensland secondary education; and

6. to help make educators - including student teachers - more aware of the important roles that they can play in alleviating excessive stress among secondary students.

B. IMPLEMENTATION: [See Chapter 3]

The program approved by BCAE consisted of five major components: (a) **library research** - literature search, reading, and finalization of research questions; (b) **research design** - refinement of methodology, development and/or selection of instruments; (c) **field research** - administration of questionnaires, follow-up interviews with selected adolescents and their parents and teachers, consultation with experts about ways of reducing adolescent stress; (d) **data analysis** - statistical processing of questionnaires, interpretation of interviews; and (e) **writing of the report.** Some form of completion has now been achieved in each of these areas. However, in order to cope with the very large quantity of data collected, the analyses and results reported in the present paper have been restricted to the minimum needed to deal effectively with the four specific aims listed on page 1. The possibilities for further data analyses and follow-up reports are enormous.

When the project was first planned, it was envisaged that questionnaires would be completed by approximately 500 students. However, the enthusiasm which each of the participating schools showed for the written survey created the valuable opportunity to collect much more data than had initially been planned. Also, as the project evolved, it became apparent that larger numbers would be necessary in order to make meaningful comparisons of schools and of

subgroups within schools. As a consequence, it was decided to expand the survey component of the research [See Chapter 3] and to postpone until a subsequent study the previously planned but time-consuming interviews with selected adolescents, parents, teachers, and experts.

The outcome of this change in emphasis is that so far a total of 2455 questionnaires have been completed. 1664 of these, representing seven different secondary schools, have been analysed for the present report. An additional 450 questionnaires from an independent girls' school where the whole student population participated, 197 from Alexandra Hills Senior College, and 144 from Brisbane C.A.E. will be considered in later analyses and reports.

C. RESULTS: [See Chapter 5]

The major problems which were identified in this study as confronting Queensland secondary students include:

1. Boring lessons.
2. No say for students in how the school is run.
3. Studying for examinations.
4. Worrying about whether I will be able to get a job when I leave school.
5. Teachers who cover the material so quickly that I have trouble keeping up.
6. Students who disrupt lessons, making it difficult for other students to learn.
7. Never having enough money.
8. Examinations.
9. Being expected to act like an adult without being given adult privileges.
10. Badly worded assignment topics.
11. Too much Competition for T.E. scores.
12. Worrying about whether I will get into the tertiary course of my choice.

There are some variations among schools, among grade levels, among ability groups, and between sexes in the identification of major problems, but generally speaking, the responses of adolescents in South-East Queensland appear to be quite homogeneous across a wide variety of backgrounds.

The present study also provides evidence that Queensland secondary students feel at least as much pressure as their counterparts overseas. For example, scores on the General Health Questionnaire (GHQ-12) are generally higher among Ss in the present study than among all adolescent groups except the unemployed in the British studies of Banks, Clegg, Jackson, Kemp, Stafford, & Wall (1980) and Banks and Jackson (1982). In addition to these findings, the sorts of school-related problems which are most stressful for Australian adolescents seem to be very similar to the problems which are identified as most stressful by students in the United States. Calculations of Spearman's correlation coefficients between Australian groups and Kohn and Frazer's (1986) American Ss on an extensive list of school-related problems frequently reach very high levels of statistical significance.

Similarities among groups in the present study are even greater when attention switches from major problems to most frequently used coping strategies. Whether attention focuses on schools, grades, ability levels, or sexes, the most frequently used coping strategies include most of the following:

1. Listen to music - stereo, radio, etc.
2. Try to make my own decisions.
3. Try on my own to figure out how to deal with my problems.
4. Try to keep up friendships or make new friends.
5. Try to improve myself (e.g., get my body in shape, get better marks, etc.).

6. Daydream about how I would like things to be.
7. Watch T.V..
8. Try to get more organized and sort out my priorities.
9. Spend time with someone I care about.
10. Go along with my parents' requests and rules.
11. Swear.
12. Try to think of the good things in my life.

D. PROFESSIONAL OUTCOMES:

Although the implementation of the PEP described in this report departed in one or two respects from the original proposal, the author believes that most of the expressed objectives have either been achieved already or are capable of being achieved within the next twelve months. For example, with regard to the specific research goals listed in section A, the project has created the opportunity to construct informed statements about the incidence and causes of stress among selected groups of Queensland adolescents and about how adolescents might be helped to cope with stress.

With respect to the broader goals of the program, this report represents the first step towards seeking to make a significant contribution to Australian research on adolescent development. Efforts will now be made not only to publicize the results of the study but also to seek publication of a number of shorter papers based on both current findings and future analyses.

Knowledge gained through the PEP has already been used in classes in both the Diploma of Teaching and Bachelor of Education courses. Comprehensive bibliographies on stress and adolescence are now available to be shared with

colleagues and students at BCAE. It is also anticipated that in Semester 2, 1989 at least some of the raw data from the present study will be made available to BCAE students so that they can make their own analyses of selected issues in adolescent development.

A very positive outcome of the project has been the establishment of useful contacts with teachers. Each participating school has been promised a copy of this final report and has already received an interim report outlining the findings for that particular school. The opportunities created for further participation in the lives of these schools are illustrated by the invitations from one school to return to talk about courses at BCAE, and from another school to be guest speaker at their 1989 Speech Night.

Having been given the opportunity to become involved in research on adolescent development, the writer intends to continue his work in this area. Mention has already been made of the desire to use interviews as a further method of data collection. Other developments are likely to include refinement of the instruments used in the present study; collection of data from a greater diversity of settings (e.g., metropolitan, country, and interstate); expansion of the tertiary component of the project; encouragement of BCAE students to participate in related research; and continued monitoring of the impact of educational change on the stress levels of adolescents.

CHAPTER 2: LITERATURE REVIEW

A. ORIENTATION:

A consideration of recent overseas and Australian literature on adolescence (e.g., Elkind, 1981, 1984, 1987; ANOP Market Research, 1985; Strutynski, 1985; Watson, 1985; Wilson & Arnold, 1986; Finlayson, Reynolds, Rob, & Muir, 1987; Eckersley, 1988) suggests that stress is becoming an increasingly disturbing factor in the lives of young people. In the United States, Elkind (1984) reports that "the number of stress-related problems among teenagers has more than trebled in the last decade and a half" (p.6). Taking a view which is reminiscent of Marcia's (1966) concept of foreclosure, Elkind relates this trend to the rapid move from an industrial to a post-industrial society. He argues that adults are too busy updating their job skills, reordering their own lives, and generally embracing the "new philosophy" of hedonistic self-interest to pay the necessary attention to the needs of the next generation. Consequently many adolescents are denied the period of non-binding decision making, or moratorium, which was once the norm. Stress factors increase as adolescents are forced into a premature adulthood in which they find it difficult to achieve an integrated sense of self, or, as Erikson (1963) describes it, a sense of personal identity. Instead they develop a "patchwork self" (p.17) which is based on thoughts and beliefs copied from others and involves being excessively susceptible to the influence of others.

Elkind's claim of increasing stress among American adolescents seems to be supported by Dacey (1982) who refers to sharp increases in suicide rates among adolescents over the last twenty years; Steinberg (1985) who discusses the difficulties that many young people have in assuming adult roles and responsibilities; and Garbarino (1985) who suggests that for some teenagers the period between

childhood and adulthood is so short "that it seems to disappear entirely" (p.11). Further support comes from Schaffer and De Blassie (1984) who relate alarming increases in adolescent prostitution to such factors as alienation from the family, parental abuse, low educational level, and limited employment possibilities; Black and De Blassie (1985) who express concern "that today's adolescents, including early adolescents, may be making important life choices such as parenthood before they are developmentally ready for such roles" (p.281); and Gilbert and De Blassie (1984) who associate the rapid increase in anorexia nervosa among adolescent females with families which are characterized by such stressors as tension, confusion, enmeshment, overprotectiveness, rigidity, and lack of conflict resolution.

In Australia, while there has been no direct empirical evaluation of Elkind's thesis, there are a number of indicators which suggest that his views on a vanishing adolescence and a consequent increase in stress for teenagers are at least worthy of consideration. For example, the age of majority in Australia has been reduced from 21 to 18. The use of alcohol and other drugs among adolescents appears to be increasing (Australian Department of Health, 1985; Eckersley, 1988). Unemployment in the 15-19 age group is much higher in the 1980s than in the previous two decades (Australian Bureau of Statistics, 1985a; Eckersley, 1988). Divorce rates, which can be interpreted as yet another index of a stressful home environment, are three to four times higher in the eighties than they were in the fifties and sixties (Australian Bureau of Statistics, 1985b; Eckersley, 1988). Intense pressure is frequently placed on adolescents to be successful in school. Continuous assessment, ROSBA, ASAT tests, and Tertiary Entrance scores seem increasingly to cast their spectre over the secondary school (Houghton, 1985; "Courier-Mail", 1985; Mishinski, 1986; "The Sunday Mail", 10th July, 1988; Henry, 1988; Charlton, 1989). Even

Year 8 students talk seriously about T.E. scores and university courses, yet more than 40 per cent of Australian adolescents have dropped out of school by the time their peers reach the final year (Eckersley, 1988).

The preceeding discussion suggests that the potential for excessive stress and anxiety among Australian adolescents is high. For this reason it is important to seek the answers to such questions as:

1. To what extent is stress an important issue in adolescent development in Australia?
2. What are the major causes of stress among Australian adolescents?
3. Are there identifiable groups of Australian adolescents who are more stressed than others?
4. What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?

However, before addressing these questions, and before proceeding to a more detailed review of the Australian and overseas literature relating to stress in adolescence, it is important to establish what is meant by the concept, "stress", and to outline how the concept will be used in the present study.

B. WHAT IS STRESS?

A survey of the academic literature relating to stress reveals that the concept continues to be the focus of considerable theoretical and empirical interest for workers from such diverse disciplines as psychology (Lazarus, 1974; 1977; Burchfield, 1979; Shirk, 1987), physiology (Selye, 1973; 1974; 1979), medicine (Benson & Allen, 1980), psychiatry (Rutter, 1980; 1983; Martin, 1984), education (Cotterell, 1982; Strutynski, 1985; Safer, 1986; Marsland, 1987), and industrial affairs (Beehr & Newman, 1978; Newman

& Beehr, 1979). Whether one consults the "American Journal of Psychiatry", "Behaviour Research and Therapy", "Adolescence", the "Journal of Consulting and Clinical Psychology", the "Journal of Personality and Social Psychology", "Psychological Bulletin", "Psychological Reports", or "Psychology Today", it seems to be a reasonable expectation that each new issue will bring yet another article relating to some aspect of stress (e.g., Steinglass, Weisstub & De-Nour, 1988; Rosenthal, Montgomery, Shadish & Lichstein, 1989; Deal & Williams, 1988; Compas, Malcarne & Fondacaro, 1988; Rhodewalt & Zone, 1989; Ludwig-Rosenthal & Neufeld, 1988; Cole & Sapp, 1988; Seligman, 1988).

Stress is a very popular concept, both among academics and among lay persons (Cohen, Evans, Stokols, & Krantz, 1986). It seems that almost everyone has an opinion, no matter how loosely conceptualized, about stress - what it is, how it affects performance, and how it should be treated:

> Everybody knows what stress is and nobody knows what it is. The word stress, like success, failure, or happiness, means different things to different people and, except for a few specialized scientists, no one has really tried to define it although it has become a part of our daily vocabulary. (Selye, 1973, p.692).

Unfortunately there are so many varied and conflicting interpretations of exactly what stress is (Mason, 1975a, 1975b; Beehr & Newman, 1978; Dobson, 1982; Sharit & Salvendy, 1982; Rutter, 1983; Duckworth, 1985; Cohen, Evans, Stokols, & Krantz, 1986) that it is difficult to know whether even the experts are really talking about the same things when they variously use such terms as stress, distress, and eustress (Selye, 1974; Girdano & Everly, 1986); acute stress, chronic stress, and chronic intermittent stress (Burchfield, 1979); boredom and deprivational stress (Girdano & Everly, 1986; King, Stanley & Burrows, 1987); overload, strain, and burnout (Mitchell, 1982; Fisher, 1984; Beehr & Newman, 1978; Kessler, Price, &

Wortman, 1985); shock, arousal, and anxiety (Wilkie, 1985; King, Stanley & Burrows, 1987); and adaptation and coping (Lazarus & Folkman, 1984; Girdano & Everly, 1986).

> Although the term stress is used widely by psychologists, sociologists, epidemiologists, medical practitioners, and lay persons, there appears to be little agreement either within or across disciplines in regard to a scientifically precise definition. Numerous definitions have been provided that vary to the extent to which they emphasize stimulus, response, or intervening mechanism (e.g., Appley & Trumbull, 1967; Mason, 1975; McGrath, 1970). They also differ in the processes under consideration with some concerned with cognition, others with motivation, and others with physiology. (Cohen, Evans, Stokols, & Krantz, 1986, pp.2-3).

In 1975, Hans Selye wrote an article entitled "Confusion and Controversy in the Stress Field" in which he sought to defend his own physiologically-derived theory of stress against a series of criticisms which had been made by Mason (1975a, 1975b). While acknowledging the considerable disagreements among stress theorists, Selye expressed optimism about what he considered to be "a very promising field of research" (Selye, 1975, p.44). In the intervening years, the research has proliferated, but it would seem that little has been done to resolve the conceptual differences. There is still confusion in the stress field! Dobson (1982) reports that "there are over 300 definitions of stress and words that are semantically akin to it"; and Rutter (1983), like Mason eight years earlier, even raises doubts about whether the term "stress" is of any further use to professionals who are seeking greater specificity in their understanding of human behaviour:

> It is clear that it is still too early to bury completely the concept of stress. Nevertheless, it does seem that it has little use (and indeed is obfuscating) in its more general form. Like the somewhat comparable global term 'maternal deprivation' (Rutter, 1981), it has served a purpose in drawing our attention to important phenomena, but now it is time to undertake a more discriminating analysis of the different effects that are likely produced by the various contrasting types of life events sometimes considered 'stressful'. (Rutter, 1983, p.17).

C. TOWARDS AN ADEQUATE DEFINITION OF STRESS:

In order to gain an immediate awareness of the "controversy and confusion" which exist in stress theory and research, one needs only to consider the multitude of contrasting definitions of stress (Dobson, 1982). As Burchfield (1979) points out, some writers view stress mainly as a stimulus - an environmental or even an inner force which elicits a reaction from the organism; others use the term to refer to the physical, cognitive or emotional responses which an organism makes when confronted with stress-producing stimuli; and yet others regard stress as an all-encompassing term which embraces the interactions between both stimuli and responses.

Definitions of stress which seem to emphasize the stimulus dimension include those developed by Rathus and Nevid (1983), Wilkie (1985), and Caplan, Cobb, French, Harrison, and Pinneau (1975). Rathus and Nevid (1983), even though they are employing the term "stress" to describe psychological phenomena, adopt the view that the concept should continue to be defined, in accordance with its long-established usage in physics, as a "pressure or force exerted on a body" (p.242). In a similar vein, Wilkie (1985) distinguishes between "stress", which is a load, and "stress breakdown", which is a person's reaction to an excessive load. Caplan, Cobb, French, Harrison, and Pinneau (1975) also associate "stress" with stimulus when they describe "stress" as "any characteristics of the job environment which pose a threat to the individual" (p.3).

In contrast to those writers who view stress as a stimulus, there appear to be many who regard stress, in a human context at least, principally as a response. Perhaps this is because of the powerful influence of Hans Selye who was undoubtedly a prime instigator in popularizing the

study of stress in animals and humans as an area for academic endeavour. Selye (1973) provides a definition of stress which has been adopted by many other writers (e.g., Szabo, Maull, & Price, 1983). The definition simply states that "stress is the nonspecific response of the body to any demand made upon it" (Selye, 1973, p.692). The definition is firmly based in the physiological tradition which Selye embraces, and this has led to criticisms from writers such as Mason (1975a, 1975b) and Lazarus (1977). These criticisms will be considered in the next section, but for the moment, the point to be made is that Selye's definition of stress focuses on the response of the organism to the stressors which confront it.

Other writers who identify stress as a response include Mitchell (1982), King, Stanley, and Burrows (1987), Siddique and D'Arcy (1984), and Girdano and Everly (1986). Mitchell (1982) describes stress as "the state reached in response to a challenge" (p.113). His stance that stress is a response is maintained when he distinguishes between "stress", which is "a very general term, encompassing every form of adaptation to a whole range of challenges from the least to the greatest" (p.113), and "strain", which "has the narrower connotation of reaction to a harmful challenge" (p.113). The other writers mentioned in this paragraph do not make a specific distinction between stress and strain, but they do share Mitchell's view that stress is a response. For example, King, Stanley, and Burrows (1987) place stress firmly within the category of response when they include both cognitive and emotional elements in their definition of stress: "Stress is a negative emotional experience which results from negative thoughts about our environment" (p.3). A similar position is taken by Siddique and D'Arcy (1984) who state that "stress occurs largely within individuals as a result of some cognitive appraisal leading to a feeling of dissatisfaction or of being threatened" (p.463). Finally, Girdano and Everly (1986) also embrace the view of stress

as response when they refer to stress as "the effects of the body reacting,.... the build up of pressure, the strain of muscles tensing.... arousal of psychophysiological (mind-body) systems which, if prolonged, can fatigue or damage the system to the point of malfunction and disease" (p.xii).

A third way to define stress is to regard it as involving an interaction between stimulus and response. This is the approach taken by Martin (1984), who argues that "stress is not to be understood as either stimulus or response but as the entire process in which stimulus and response occur" (p.445); Sharit and Salvendy (1982) who describe stress as "a multidimensional phenomenon that is reflected in the individual's physiological and psychological responses to a particular work situation" (p.130); Burchfield (1979), who suggests that a transaction between a "stressor" and the "stress response" results in a striving to re-establish "psychological homeostasis" (p.662); Lazarus and Folkman (1984), who believe that stress arises when "a relationship between the individual and the environment .... is appraised as taxing or exceeding one's ability to cope" (Davis & Compas, 1986, p.378); and Cohen, Evans, Stokols, and Krantz (1986) whose incisive statement about "psychological stress" not only subsumes the ideas presented in the first part of this paragraph, but also seems to capture the essential positions of many other writers (e.g., Lazarus, 1968; McGrath, 1970; McLean, 1974; Beehr & Newman, 1978; Newman & Beehr, 1979) who also embrace an interactional view of stress:

> Psychological stress then is not defined solely in terms of the stimulus condition or solely in terms of the response variables but rather in terms of the transaction between the person and the environment. It involves interpretation of the meaning of the event and the interpretation of the adequacy of coping resources. In short, the psychological stress tradition assumes that stress arises totally out of persons' perceptions (whether accurate or inaccurate) of their relationship to their environment. (Cohen, Evans, Stokols, & Krantz, 1986, p.5).

The confusions about the definition of stress are not just confined to the issues discussed in the preceding paragraphs. Irrespectively of whether stress is regarded as a stimulus, as a response, or as an interaction between the two, there are also conflicts between those writers who appear to use the term "stress" interchangeably with such concepts as anxiety, depression, frustration, conflict, ego threat, tension, and arousal (e.g., Cofer & Appley, 1964; Hurst, Jenkins, & Rose, 1978; King, Stanley, & Burrows, 1987), and those who are frustrated by the nonspecific use of such terms (e.g., Appley & Trumbull, 1967; Mason, 1975a, 1975b; Beehr & Newman, 1978; Dobson, 1982; Sharit & Salvendy, 1982; Gottschalk, 1983; Rutter, 1983; Duckworth, 1985):

> Undoubtedly the concept of stress has been useful in alerting people to several important sets of phenomena. However, in its most global form, the term 'stress' has come to include a far too wide and heterogeneous range of events, which may well have different psychopathological consequences. What is needed now is a more discriminating analysis of the (probably) rather different effects of the various disparate types of life event sometimes considered 'stressful.' (Rutter, 1983, p.33).

There is also disagreement between those who interpret stress so broadly that it includes every conceivable event - minor, major, happy, and sad - in a person's life (e.g, Selye, 1973, 1974, 1979; Mitchell, 1982), and those who believe that the use of the word "stress" should be restricted to the discussion of reactions to events which are perceived as serious and negative (e.g., Stanton, 1985; King, Stanley, & Burrows, 1987). Selye argues that all stimuli, both positive and negative, are stressors and elicit a stress response. In contrast, Stanton prefers to define stress as "something aversive which is to be avoided" (p.171), and to associate stress with substantial negative feelings such as insecurity, inadequacy, and helplessness. King, Stanley, and Burrows argue that "the term 'stress' should be reserved for a relatively disruptive level of this mood" (p.3).

Just to deepen the confusion over how "stress" should be defined, there even seems to have been a major shift in position by at least one of the major researchers in this field. In discussing Selye's conceptualization of stress, Shaffer (1982) reports:

> The most significant aspect of Selye's definition of 'stress' was that he reversed the traditional usage. Instead of viewing stress as an agent or force, he instead regarded stress as the result produced within an organism by the presence of some other agent or force. (Shaffer, 1982, p.2).

However, Selye did not always define stress as a response. In his early work, in the 1920s and '30s, his stance was more traditional, and he regarded stress as a stimulus or force operating on the organism. In his later re-sorting of his ideas, that original "stress" became known as a "stressor", and the terms "eustress" and "distress" were incorporated to elucidate his new conceptualization of stress (Selye, 1975). Because Selye has been such an influential theorist, and because there has been a major shift in his own position, he probably bears some of the responsibility for current confusions in the stress field. On the other hand perhaps Selye's own confusion - which he subsequently resolved - was just a natural reflection of a dispute which would have occurred anyway, for Rutter (1983) indicates that the array of meanings attached to the word "stress" has a very long history:

> As the Oxford English Dictionary makes clear, the use of the term goes back to at least the early fourteenth century, at which time the word had already acquired several rather different meanings." (Rutter, 1983, p.1).

Fortunately, both Dobson (1982) and Mason (1975b) suggest solutions to the problem of defining stress. Dobson proposes that stress be regarded as "a situation-specific word, i.e., a word which assumes various meanings according to the particular situation or context in which it is used" (Dobson, 1982, p.2). Mason also recognizes the impossibility - and undesirability - of attempting to persuade all

theorists to share a single definition of stress and consequently adopts Lazarus' (1966) view that "a more realistic approach may be to urge that each scientist, whatever his disciplinary or conceptual bias may be, take care always to specify clearly the manner in which he uses certain stress concepts" (Mason, 1975b, p.29).

In view of the good sense expressed by the writers represented in the previous paragraph, the present writer wishes to declare the stance adopted in this paper. The word "stress" is regarded as a global term covering not only stimuli, or stressors, which exert pressure on individuals (cf. Rathus & Nevid, 1983), and responses, which individuals make to both external and internal stressors (cf. Siddique & D'Arcy, 1984), but also the interactions between stressors and individuals (cf. Martin, 1984), including all the accompanying affective, cognitive, and behavioural manifestations of the stress response. Because stress is generally regarded as eliciting negative responses in individuals (King, Stanley, & Burrows, 1987), the present writer, unlike Rutter (1983) and Duckworth (1985), but in accordance with the views of King, Stanley, and Burrows (1987), takes the view that it makes sense to associate stress with the sorts of negative emotional responses which were discussed earlier: anxiety, depression, frustration, conflict, ego threat, tension, and arousal. To do otherwise would be to ignore important sources of information about the relationship between stress and performance.

A statement which seems to encapsulate the present writer's definition of stress is presented by Beehr and Newman (1978):

> In reviewing these various concepts of stress, McLean (1974) concluded that stress is neither stimulus, response, nor intervening variable, but rather a collective term for an area of study - an area of study which, in its broadest sense, is differentiated from other problem areas in that it deals with any demands which tax the system, whatever that system may be (a physiological system, a social system, or a psychological system) and the responses of that system to the taxing demands. (Beehr & Newman, 1978, p.669).

In the above quotation, the description of "stress" as "a collective term for an area of study" helps to emphasize the idea, which the present writer is trying to convey, that the term "stress" should be interpreted in a broad and embracing sense. This stance is maintained by Beehr and Newman when they use "stress" to subsume both the "demands which tax the system" and the "responses of that system to the taxing demands". Since these writers make no distinction between positive and negative demands, it can be inferred that they, and McLean, believe that it is possible for positive as well as negative events to be stressful. This view is endorsed by the present writer who thus accepts the previously discussed positions of Selye (1979) and Mitchell (1982), and finds himself in disagreement with Stanton (1985) and King, Stanley, and Burrows (1987). Nevertheless it is acknowledged that, as a general rule, negative events are more likely to be stressful than positive events.

D. AN ANALYSIS OF SOME OF THE MORE WIDELY ACCLAIMED THEORIES OF STRESS:

The diversity of views about stress becomes even more apparent when one moves beyond the definition of stress to a consideration of the stress theories themselves. This point is illustrated in Figure 1 which represents the current writer's efforts to establish a framework for comparing some of the better known theories. A review of the literature on stress suggests that there are two major orientations in the conceptualization of stress (Mason, 1975a): the physiological perspective which is represented mainly by the work of Hans Selye, and the psychological perspective which covers a much wider range of views falling into two main categories, attributional theories and transactional theories. The two major orientations are not mutually exclusive. Linking perspectives are provided by such theorists as Dohrenwend (1961), Kagan and Levi (1971), and Girdano and Everly (1986). Even among writers who have

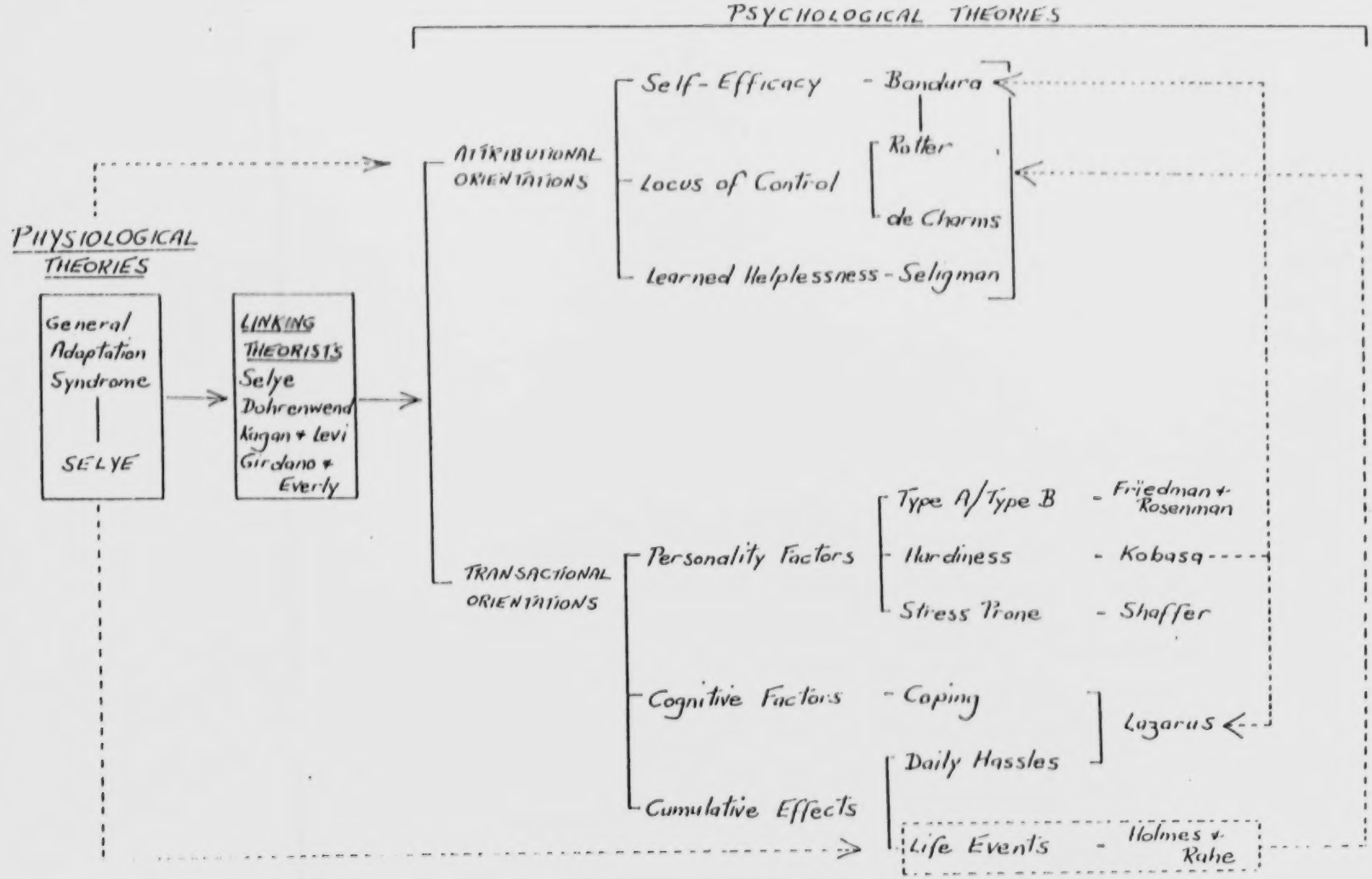

FIGURE 1: A FRAMEWORK FOR COMPARING STRESS THEORIES

been categorized as being essentially physiological or psychological in their orientation, there appear to be ties with various other positions. This is true of the work of Selye himself, and it also true of such theorists as Holmes and Rahe (1967). These links among theorists are of particular interest in the present attempt to develop a synthesized, integrated statement about the nature of stress.

SELYE: GENERAL ADAPTATION SYNDROME

One of the early pace setters in the evolution of stress theories was Hans Selye who developed his initial ideas about stress in the 1920s and '30s and was still writing prolifically in the 1970s. The central premise of Selye's physiologically-based theory is his notion of the nonspecific, generalized response of the body to any stressor (Szabo, Maull, & Pirie, 1983; Waterhouse, 1984). Selye recognizes that different stressors may produce different specific effects (Selye, 1979), but the major thrust of his theoretical and empirical work has been to demonstrate that stressors, whether they be physical or chemical, psychosocial or physiological, positive or negative, pleasant or unpleasant (Szabo, Maull, & Pirie, 1983), produce a general physiological effect which is the common response of all organisms to all stressors. Selye calls this nonspecific component of an organism's response to a stressor the General Adaptation Syndrome (GAS). It involves three stages of response - alarm, resistance, and in extreme cases, exhaustion - and results in observable physiological change:

> Stressors have different specific effects, but their nonspecific effects are essentially the same: they all elicit the GAS, that is, adrenal cortex enlargement, shrinking of the thymus, deep bleeding ulcers. (Selye, 1979, pp.13-14).

Although Selye's initial interest was in physiological phenomena, he later adapted his theory to include a consideration of the psychological components of stress. This additional focus is illustrated in his 1979 paper in which he outlines his code of ethics based on "the scientifically verifiable laws that govern the body's reactions" (pp.14-15). In emphasizing the importance of worthwhile and sustained effort in pursuing valued life goals, Selye steps beyond the purely physiological domain and acknowledges the importance of such psychological phenomena as cognition and affect, first, by using such terms as "the eustress of fulfillment", "aggressive egoistic effort", "guilt", "inferiority complex", and "planned self-analysis" (p.15), and second, by talking of individual differences in perceptions of worthwhile efforts and pursuits:

> People differ with regard to the amount and kind of work they consider worth doing to meet the exigencies of daily life and to assure their future security and happiness. In this respect, all of us are influenced by hereditary predispositions and the expectations of our society. Only through planned self-analysis can we establish what we really want; too many people suffer all their lives because they are too conservative to risk a radical change and break with traditions. (Selye, 1979, p.15).

Martin (1984) also acknowledges Selye's impact on the field of human psychology, but he is highly critical of Selye's theory for two reasons. First, he believes that Selye has inappropriately used the results of physiological research on animals to generalize about human psychology. Second, he argues that Selye has erred in assuming that the same GAS which is produced by applying noxious substances to animals will also be elicited in humans through psychosocial stressors. Martin argues that in the absence of legitimizing research using human subjects, it is inappropriate to apply Selye's theory to humans:

> Selye is nowhere basing his ideas on psychological experiments. His work is rooted in his original conceptualization of a noxious substance causing the three-stage reaction. This noxious substance is not a

> psychological process. However, in his later writings - certainly his most recent - he talks of psychological stress as if it were allied to his own earlier writings. This is an extrapolation which is not justified. Once psychic stimuli are included in the stress concept, one is expanding Selye's original meaning.... one is including a new assortment of phenomena which must be investigated and understood. (Martin, 1984, p.448).

Despite Martin's criticisms, Selye is in good company when he uses the findings of animal studies to inspire his thinking about humans (e.g.,Skinner, Thorndike, Rosenthal & Jacobson, and the Gestaltists). The purpose of a theory is not only to explain the relationships among observed phenomena, but also to stimulate further theorizing and research. In this context, an obvious and legitimate step for Selye to take on the basis of his findings with animals was to think about the applicability of his theory, or parts of it, to humans. As an individual, he may not have been able to answer empirically all of the questions that were raised by his expanded theory, but he certainly fulfilled the important function of a theorist of generating large quantities of relevant research. It is apparent from an evaluation of Selye's impact on research into human stress that to reject his theory solely on the grounds that it had its genesis in experiments with animals would be highly inappropriate. Perhaps this is one of the reasons why writers such as Mason (1975a; 1975b), Martin (1984), and King, Stanley, and Burrows (1987), despite their attacks on Selye's theory, have never been able to totally discredit it.

Although Selye regards excessive amounts of stress as undesirable, (Selye, 1973; Cohen, Evans, Stokols, & Krantz, 1986), he also argues a positive role for moderate stress (Selye, 1973). He seems to imply a motivational role for stress when he attributes to this phenomenon the function of raising the necessary energy to pursue a desired life style:

> Contrary to public opinion, we must not - and indeed cannot - avoid stress, but we can meet it efficiently and enjoy it by learning more about its mechanism and adjusting our philosophy of life accordingly. (Selye, 1973, p.693).

Selye's motivational theme is taken up by Dobson (1982). He associates "a certain amount of stress" and "a little anxiety from time to time" with stimulation, motivation, action, and overcoming boredom. However, despite these supposed benefits of stress, Dobson concludes that the positive aspects of stress are "meagre" compared with their potential for harm.

This stance is probably very similar to Selye's. Although Selye almost seems to relish a manageable amount of stress - "it is a biologic law that man ..... must fight and work for some goal that he considers worthwhile" (Selye, 1979, p.15) - he also argues that each person has only a limited amount of energy to apply to coping with a stressful situation, and that running out of energy has pathogenic consequences:

> Two aspects of Selye's model have exerted a profound influence on the development of behavioral and psychological conceptions of the stress process. The first is his assumption that there is a finite amount of adaptive energy that can be invested in one's transaction with a stressor or stressors. A depletion of this energy results in a deleterious impact on the organism.... A second influential aspect of Selye's theory is his argument that pathogenic effects occur as a result of the body's attempt to cope with the stressor. (Cohen, Evans, Stokols, & Krantz, 1986, p.5).

Selye's findings of both positive and negative effects of stress on performance are reflected in the long tradition of research which is based on the Yerkes-Dodson law (Benson & Allen, 1980) and which generally purports to indicate a curvilinear (inverted U) relationship between performance and such variables as stress, anxiety, and arousal (Sharma, 1970; Benson & Allen, 1980). The "inverted U" reseach has been strongly criticized by Sharit and Salvendy (1982) who acknowledge the theory's ability to explain results retrospectively but question its predictive capabilities;

and by King, Stanley, and Burrows (1987) who argue a simple linear relationship between stress and performance, such that increasing stress would generally result in deteriorating performance much more than it does, except for the operation of counterbalancing factors such as arousal.

It is not the current writer's intention to become embroiled in a detailed analysis of the complex arguments which attach to each of these views. Sharit and Salvendy's views have merit in that they address a fundamental problem in "inverted U" research; and it is possible, though not definite when one considers the stress-arousal-performance triangle, that the position adopted by King and his colleagues is in conflict with the commonly held belief - endorsed by Selye - that controlled amounts of stress can be used to enhance performance. However, despite their possible differences, there is at least one important point on which Selye (1973), Sharit and Salvendy (1982), and King, Stanley, and Burrows (1987) agree, along with most other stress theorists, and that is that excessive amounts of stress have a detrimental impact on the organism.

ATTRIBUTIONAL THEORIES

In his 1979 paper, Selye includes a large segment on how to cope with stress. Permeating his discussion is a belief that positive thinking and decisive action are powerful coping mechanisms:

> Try to keep your mind constantly on the pleasant aspects of life and on actions that can improve your situation. Try to forget everything that is irrevocably ugly or painful. This is perhaps the most efficient way of minimizing stress.... When faced with a task that is very painful yet indispensable to achieve your aim, don't procrastinate; cut right into the abscess to eliminate the pain, instead of prolonging it by gently rubbing the surface.... (Selye, 1979, p.16).

Such assertions establish an important link (see Figure 1) between Selye and the attributional theorists (e.g., Bandura, Rotter, de Charms, and Seligman) whose major interests lie in such issues as believing in one's own ability (Bandura, 1986), taking responsibility for one's own actions (Rotter, 1966; de Charms, 1968), and developing a sense of personal power (Abramson, Seligman, & Teasdale, 1978).

Selye (1979) regards self-confidence as an essential prerequisite for the successful pursuit of challenging but realistic goals. A similar stance is taken by Bandura whose self-efficacy construct deals with people's perceptions of their abilities to cope with the events in their lives (Bandura, 1981; 1982; 1986). Self-efficacy is high when a person believes in his/her ability to deal effectively with a specific situation. It is low when the opposite belief prevails. Self-efficacy judgments are said to play an important role in determining the activities and settings which people choose, the amount of effort which they put into their activities, and the nature of their emotional and intellectual responses to their environment (Bandura, 1982):

> People successfully execute tasks that fall within their enhanced range of perceived self-efficacy, but shun or fail those that exceed their perceived coping capabilities. (Bandura, 1982, p.126).

Judgments of self-efficacy are based on four major sources of information: one's own performance; the observed performances of others; persuasion and other forms of social influence; and, providing another link with Selye, one's own physiological states (Bandura, 1982). Of these sources, Bandura believes that the one which exercises the greatest influence on self-efficacy is one's own performance, and this view seems to be endorsed by Selye (1979) when he asserts that "nothing paralyzes your efficiency more than frustration; nothing helps it more than success" (p.16).

The relevance of self-efficacy to a discussion of the relationship between stress and performance can be inferred not only from statements by Bandura, but also from comments by Morgan, Owen, Miller, and Watts (1986), Holahan, Holahan, and Belk (1984), Schwarzer and Schwarzer (1982), Rutter (1983), and Girdano and Everly (1986).

Bandura (1982) describes self-inefficacy as the perceived "inability to influence events and social conditions that significantly affect one's life" (p.140). He suggests that negative beliefs of this nature lead to such stress-related feelings as anxiety, futility, and despondency. He also argues that judgments of inefficacy about oneself "create stress and impair performance by diverting attention from how best to proceed with the undertaking to concerns over failings and mishaps" (Bandura, 1982, p.123).

Morgan, Owen, Miller, and Watts (1986) also argue a strong connection between self-efficacy and stress. They suggest that people who have a strong sense of self-efficacy are more likely "to evaluate events as less stressful, to experience less distress at the occurrence of the events, and to experience less frequent and severe physical and psychological breakdown in response" (p.577). These writers are critical of the use of general measures of self-efficacy because of the inability of such instruments to predict stress accurately. Nevertheless, Morgan and his associates remain committed to "the theoretical relevance of self-efficacy to the resolution of stressful life events as problems" (p.581). They propose that, in confirming the relationship between self-efficacy and stress, Bandura, Adams, Hardy, and Howells' (1980) approach of measuring self-efficacy in relation to a specific situation is more likely to yield significant findings.

Holahan, Holahan, and Belk (1984) report that "both the perception of efficacy in dealing with hassles and the frequency of hassles are especially important predictors of

psychological distress and psychosomatic complaints in elderly persons" (p.325). They go on to argue that "the construct of self-efficacy is implicit in labeling an event as a hassle" (p.325), and to link self-efficacy judgments with what Lazarus (1966), with his "cognitive appraisal" perspective, regards as the second of the two key factors in determining the occurrence of stress, namely a person's appraisal of "his or her personal resources for dealing with the threat" (Holahan, Holahan, & Belk, 1984, p.326). [The first key factor is whether or not the situation is perceived as threatening.]

In a statement which seems to highlight the importance of developing high self-efficacy in order to counter excessive stress, Schwarzer and Schwarzer (1982) make the following assertions:

> Students who feel competent will not be threatened by stressful academic demands; they will feel challenged (Lazarus, 1980). Students with low degrees of self-efficacy expectations (Bandura, 1977) will be threatened and will react with high levels of achievement anxiety (Sarason, 1980)." (Schwarzer & Schwarzer, 1982, p.305).

These views are supported by Rutter (1983) who states that "there is a good deal of evidence in favor of the general proposition that an individual's attributional style influences how he responds to life events" (p.27), and by Girdano and Everly (1986) who, like Lazarus (1966), argue an inverse relationship between sense of control and degree of stress, and regard feelings of hopelessness and helplessness as fundamental causes of excessive stress.

Self-efficacy theory is firmly based in social learning theory (Bandura, 1982). A similarly derived and closely related theory, which also deals with personal power and the ability to control one's environment, and which is therefore also linked with Selye's (1979) views on positive thinking and decisive action, is Rotter's locus of control theory (Kaplan, Atkins, & Reinsch, 1984, p.225). The theory

deals with people's perceptions about whether or not they control their own destinies. People who believe that they exercise genuine control over important factors in their lives, and who act in accordance with this belief (de Charms, 1968), are said to have an internal locus of control, while people who perceive that they have little personal control, believing instead that they are controlled by powerful external forces, are said to have an external locus of control. De Charms' (1968) terms for "Internals" and "Externals" are "Origins" and "Pawns". Like Rotter, he suggests that individuals range along an origin-pawn (internality-externality) continuum in accordance with the interaction between their personalities and their changing circumstances.

> We shall use the terms 'Origin' and 'Pawn' as shorthand terms to connote the distinction between forced and free. An Origin is a person who perceives his behavior as determined by his own choosing; a Pawn is a person who perceives his behavior as determined by external forces beyond his control.... Feeling like an Origin has strong effects on behavior as compared to feeling like a Pawn. The distinction is continuous, not discrete - a person feels more like an Origin under some circumstances and more like a Pawn under others. (de Charms, 1968, p.273).

Rotter argues that greatest stress is most likely to be experienced by individuals who fall at either extreme of the internality-externality (I-E) continuum (Gilbert & Mangelsdorff, 1979). On the one hand, if Internals believe that they have more control over themselves and over their environment than they really do, they are likely to suffer distress when their inappropriate initiatives result in failure. On the other hand, if Externals underestimate their capacity to control, they may fail to perform actions of which they are capable, and suffer instead the distress of being overwhelmed by perceived uncontrollable forces.

The importance of perceived control in determining levels of stress is supported by Walker, Walker, and MacLennan (1986) and Girdano and Everly (1986). Walker and his associates report that, in their study, perceived lack

of control - over such things as weather, productivity, market forces, and government policy - proved to be a major source of stress among Canadian farmers. A complementary view is expressed by Girdano and Everly who suggest that real or imagined loss of control may be one of the most powerful stressors of all, and that increasing a person's sense of control is likely to constitute a successful strategy for managing stress:

> Such researchers as Lazarus (1966), Bandura (1982), Kobasa (1979), Matheny and Cupp (1983), and Fisher (1984) all offer considerable evidence that a real or imagined sense of control over self or environment is a powerful stress-reducing mechanism. Fisher (1984) has compiled perhaps the most impressive array of evidence indicating that a sense of control may be the single most powerful stress management tool one can mobilize. (Girdano & Everly, 1986, p.99).

A third attributional theory, which is closely related to self-efficacy theory and locus of control theory, and which consequently has a bearing on the discussion of Selye's (1979) idea of countering the stress of failure through positive thinking and decisive action, is the theory of learned helplessness (Seligman, 1975; Nolen-Hoeksema, Girgus, & Seligman, 1986). In contrast to the other two theories, which are each conceptualized in terms of a continuum ranging from positive to negative extremes of the concept in question, learned helplessness theory focuses on the negative, being associated with perceptions of lack of control over one's own life and feelings of inefficacy. According to Seligman (1975), learned helplessness is likely to occur when people believe that their reinforcements are independent of their responses and that they therefore lack control over outcomes (Cohen, Evans, Stokols, & Krantz, 1986). The link between perceived lack of control and high stress levels (Girdano & Everly, 1986) has already been established (see page 22). By association, it seems reasonable to argue a link between learned helplessness and stress, especially when the emotional responses which accompany learned helplessness include depression, sadness, and lowered self-esteem, all of which seem to be related to stress.

> This expectation of no control leads to motivational deficits (lowered response initiation and lowered persistence), cognitive deficits (inability to perceive existing opportunities to control outcomes), and, in humans, emotional deficits (sadness and lowered self-esteem). These deficits are collectively known as learned helplessness deficits. (Nolen-Hoeksema, Girgus, & Seligman, 1986, p.435).

In a later reformulation of the learned helplessness theory, Abramson, Seligman, and Teasdale (1978) argue that people who possess an attributional style which results in their habitually viewing the causes of bad events as "stable in time, global in effect, and internal to themselves" (Nolen-Hoeksema, Girgus, & Seligman, 1986, p.435) are especially vulnerable to the learned helplessness deficits listed above. According to earlier arguments, this means that they are also vulnerable to stress, and combining the ideas of self-efficacy theory, locus of control theory, and learned helplessness theory, it would seem reasonable to hypothesize that the personal factors associated with vulnerability to stress include low self-efficacy, external locus of control, and learned helplessness.

TRANSACTIONAL THEORIES:

In the same way that it has been possible to establish links between attributional theories and Selye's physiological theory, so it is possible to find commonalities between Selye and at least some of the transactional theories listed in Figure 1 (see p.19). This is especially true for the cumulative effects theories, which include the life events orientation of Holmes and Rahe and the daily hassles and coping orientations of Lazarus. The development of these orientations can be related directly back to the work of Selye (Waterhouse, 1984; Kessler, Price, & Wortman, 1985) and, in particular, to Selye's assumptions, which were discussed earlier, that each

organism has "a finite amount of adaptive energy" and that excessive demands elicit pathogenic outcomes (Cohen, Evans, Stokols, & Krantz, 1986, p.5).

> Much of the research on life event effects has been based on the pioneering work of Cannon (1939) and Selye (1956). According to these theorists, life change creates a disequilibrium which imposes a period of readjustment. The readjustment period can leave the person more vulnerable to stress and its consequences. (Kessler, Price, & Wortman, 1985, p.533).

The life events research initiated by Holmes and Rahe (1967), and continued by such people as Rahe (1979), Rahe, Ryman, and Ward (1980), Yamamoto and Phillips (1981), Kale and Stenmark (1983), Zimmerman (1983), Newcomb, Huba, and Bentler (1981, 1986), Swearingen and Cohen (1985), and Linn (1986), has proved controversial. It has made a substantial contribution to the debate on the nature of stress, firmly establishing the link between the physiological and the psychological traditions in stress research, and producing a host of instruments for measuring stress and stress-related phenomena. However, it has also attracted widespread criticism mainly because of the shortcomings in its methodology.

Implicit in the life events construct are the notions (cf. Selye, 1979) that there are limits to the extent to which one can cope with the important happenings in one's life, and that the presence of excessive coping demands within the individual will increase his/her susceptibility to illness (Rahe, 1979). Both pleasant and negative life changes are regarded as eliciting a stress response, and Rahe (1979) reports that "extremely pleasant life changes (such as marriage, inheriting a large sum of money, etc.) were found to require nearly equal amounts of life adjustment as unpleasant events" (p.3). However, some caution may be needed in interpreting these findings since they are not totally borne out by Holmes and Rahe's (1967) extensive research into the relative demands of important life events. The six highest stressors in their list were

all negative events, and the most stressful positive event, "marriage", scored only 50 points in comparison with the most stressful negative event, "death of a spouse", which scored 100. Perhaps Girdano and Everly's (1986) carefully worded statement about the relative stressfulness of positive and negative life events is just a little more precise, and a little more acceptable, than Rahe's:

> Remember, it is change, the disruption of homeostatic equilibrium, that produces stress and adaptation, regardless of whether the event is desirable or undesirable. Negative or distressful events are usually the most harmful, as they are more disruptive for a longer period of time. They stimulate negative thoughts which linger in the mind, producing a secondary effect by stimulating fear, self-doubt, and catastrophic imaginings. However, positive events can likewise be stressful in that they also initiate change which necessitates adaptation; but usually positive change does not produce the secondary effect of the negative event, and thus it is given fewer points in the weighting of life events. (Girdano & Everly, 1986, p.48).

Life events play an important role in the development of self-efficacy and locus of control. In a statement which establishes a link between the orientations of the life events theorists and the attributional theorists, Kessler, Price, and Wortman (1985) report that "people who are exposed to events that are undesirable and uncontrollable may draw inferences about themselves or the world that impair their subsequent coping responses" (p.535). Referring to the research of Pearlin, Lieberman, Menaghan, and Mullan (1981), Wheaton (1982), Scheppele & Bart (1983), and Kaplan, Robbins, and Martin (1983), Kessler and his colleagues argue that exposure to adverse life events can lower people's self-esteem by disrupting their capacity to cope, by increasing the number of chronic stressors to which they are exposed, and by generally increasing adaptational demands to the extent that they are more likely to experience at least some degree of failure.

According to the "life stress and illness model" developed by Rahe and his associates (1974), the impact of recent life events on the well-being of the individual is mediated by: (a) past experiences; (b) ego defense

mechanisms; (c) physiological responses; (d) coping strategies; and (e) willingness to seek medical advice. Since each person is likely to bring different experiences, cognitions, and behaviours to bear on each of these factors, Rahe's model seems to imply a commitment to the view that individual differences play an important role in determining how people respond to life events. A similar impression is conveyed when Holmes and Rahe (1967) report a wide variation in patients' psychological and emotional responses to specific life events, and when Rahe (1979) says:

> It should be clear to investigators that when they gather sentiments of upsettingness, desirability, control, and what have you, they are measuring a variety of subjective responses to the environment which confound objective estimates of life change. (Rahe, 1979, p.4).

Yet when Holmes and Rahe (1967) developed an instrument, the Social Readjustment Rating Scale (SRRS), for measuring the impact of recent life events, rather than allowing for individual differences in perception of specific life events, they adopted a very rigid stance both with regard to the content of the scale and with regard to the relative weightings of each of its items. This appears to be a major cause of much of the criticism which has been directed against their work (e.g., Lazarus and Launier, 1978; Martin, 1984; Girdano & Everly, 1986).

The SRRS consists of a 43-item checklist in which subjects (Ss) are asked to indicate from a prescribed list, the life changes which they have experienced during a nominated period of time (e.g., the past six months). Rahe, et al. (1974) report that many of the items in the SRRS fall into four main clusters dealing with: (a) Ss' work (e.g., "Fired at work", "Change in responsibilities at work"); (b) Ss' personal and social lives (e.g., "Death of close friend", "Son or daughter leaving home"); (c) Ss' marital relationships (e.g.,"Death of a spouse", "Divorce", "Marriage"); and (d) Ss' recent disciplinary actions (e.g., "Jail term", "Minor violations of the law"). The lack of

flexibility in the scale is evident both in its failure to provide any open-ended questions about what Ss perceive as stressful, and in the allocation of precise, predetermined weightings when scoring each of the prescribed items. To illustrate, when "Death of a spouse" is given a weighting of 100 life change units (LCUs), "Divorce" a weighting of 73, and "Marriage" a weighting of 50, no account is taken of differences in the amount of love/attachment which prevails in various marriages, nor is account taken of individual differences in values and personality. Each S who ticks one of these items receives exactly the same score on that item as every other S who ticks it. Yet another inflexibility in the SRRS attaches to the interpretation of total LCUs. Apparently disregarding the possibility of individual differences in tolerance of stress, Holmes and Rahe assume that Ss are at risk when their individual scores on the SRRS exceed 150 (Bee & Mitchell, 1980).

Martin's (1984) criticism of Holmes and Rahe's work focuses both on their conceptualization and on their methodology. In particular, he attacks the "life stress and illness model" (Rahe, et al., 1974), referring to it as a "pseudomodel" which fails to address the key questions of what constitutes a "life stress" and why such events as the death of a spouse or the loss of a job should be major factors in the onset of illness. Like many other critics of life events research, Martin is also critical of the correlational nature of Holmes and Rahe's work, indicating that their methodology prevents them from legitimately imputing causality between life events and illness. What is needed in order to attribute causality in the analysis of stress relationships is a move towards studies which are prospective in nature.

In addition to the problem of attributing causality, another shortcoming of the correlational approach to the study of life events rests with the relatively low correlations which are typically found between life changes

and stress reactions. Although the findings frequently reach statistical significance, Rabkin and Struening (1976) report that correlation coefficients are rarely above .30 (Wiebe & McCallum, 1986) and calculate that "no more than 9% of the variance in health outcomes is explained by life events" (Kessler, Price, & Wortman, 1985, p.534). It is apparent that predicting illness or stress reactions on the basis of life changes alone is difficult, if not impossible. Rahe (1979) seems to acknowledge this in a statement which implies that his earlier choice of 150 LCUs on the SRRS as the threshold for identifying at-risk Ss (Bee & Mitchell, 1980) was a deliberately conservative approach to screening:

> A risk factor is useful in that it reliably identifies a subset of the population with higher likelihood of developing certain disease than persons without the factor, but such risk factors are notoriously nonspecific. The number of false positives is generally much larger than the number of true positives. (Rahe, 1979, p.2).

Because of Rabkin and Struening's (1976) findings, it is necessary to look beyond life events for other key factors in the determination of stress outcomes. A consideration of some of the other theorists listed in Figure 1 (p.19) suggests that these factors may include daily hassles (Lazarus, 1977); personality type (Friedman & Rosenman, 1974); hardiness (Kobasa, 1979); and psychosocial factors (Erikson, 1963; Elkind, 1984).

An important alternative to the life events orientation is Lazarus' emphasis on daily hassles (Lazarus & DeLongis, 1983; Kanner, Coyne, Schaeffer, & Lazarus, 1981). In contrast to life events which usually refer to major but rare events in people's lives, hassles are "irritating, frustrating, distressing demands and troubled relationships that plague us day in and day out" (Lazarus & DeLongis, 1983, p.247). They include such things as concerns about news events, traffic, having to wait, not getting enough sleep, and being lonely (Dohrenwend & Shrout, 1985).

Referring to research by Zarski (1984) and Kanner, Coyne, Schaeffer, and Lazarus (1981), Girdano and Everly (1986) suggest that "minor daily 'hassles' may be a far more important predictor of illness than are major life events" (p.50). They are supported in this view by Holahan, Holahan, and Belk (1984) who refer to research (e.g., DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Monroe, 1983) which suggests that "chronic daily hassles are a better predictor of psychological symptoms than are life events" (p.316), and Dohrenwend and Shrout (1985) whose major purpose in writing is to criticize the "daily hassles" concept but who nevertheless acknowledge Lazarus and Delongis' (1983) conclusion that daily hassles are better predictors than are life events of "adaptational outcomes such as morale, psychological symptoms, and somatic illness" (Lazarus & DeLongis, 1983, p.247).

A possible explanation for the greater predictive power of daily hassles over life events is provided by Lazarus and his colleagues (Kanner, et al., 1981; DeLongis, et al., 1982) who regard hassles as a proximal measure of stress, and life events as a distal measure:

> Hassles are a proximal measure of stress involving an individual's immediate perception of the environment. Life events, on the other hand, are distal measures, which may vary in significance across individuals. (Holahan, Holahan, & Belk, 1984, p.324).

Dohrenwend and Shrout's (1985) criticism of the daily hassles approach to the study of stress centres around Lazarus' Hassles Questionnaire. They express the view that many of the items in the scale resemble psychological symptoms, and that Lazarus is therefore using psychological symptoms to predict psychological symptoms. They seem to be of the opinion that Lazarus has "a problem of confounded measures" (p.780). However, it seems to the present writer that Lazarus' approach is imminently sensible. He is simply using as direct a measure as possible to try to predict psychological outcomes.

Another criticism which Dohrenwend and Shrout (1985) make of the Hassles Questionnaire relates to the instructions and the format. This time there seems to be some merit to their criticism. In completing the scale, Ss are asked to circle "whether each 'hassle' (not event) happened to him or her in the past month and then go back and judge its 'severity'." (Dohrenwend & Shrout, 1985, p.781). The only response categories provided are "somewhat severe", "moderately severe", and "extremely severe". There is no opportunity for Ss to indicate that they might have perceived a presumed hassle as something positive. It seems that Lazarus and his associates have assumed that all Ss will share the researchers' judgments that all of the items in the Hassles Questionnaire really do represent hassles.

Despite the criticisms, daily hassles seem to represent yet another useful source of information about stress and the likelihood of its occurrence in individuals. This line of research has grown out of Lazarus' cognitively-oriented theory of coping in which he argues that people's responses to potentially stressful situations - including daily hassles - depend to a large extent on how they perceive those situations (Lazarus, 1966, 1977). Perceptions are said to precede and mediate emotional and physiological responses to stressors, and potential stressors only become real stressors when they are perceived as threatening. A similar stance is taken by Woolfolk and Richardson (1979) in their cognitive-appraisal model of stress:

> Stress is seen as the product of the organism's appraisal of situations and events. It is the way in which we perceive and interpret things that dictates whether or not they will be stressful for us. (Dobson, 1982, p.9).

The focal point of Lazarus' theory is the coping process (Cohen, Evans, Stokols, & Krantz, 1986). Coping is defined as "the cognitive and behavioral effort made to master, tolerate, or reduce demands that tax or exceed a

person's resources" (Kessler, Price, & Wortman, 1985, p.550). Lazarus (1966, 1977) suggests that, in attempting to cope with such demands, the individual is constantly involved in making two kinds of appraisals. Primary appraisals involve making a decision about whether a situation is threatening or challenging, while secondary appraisals involve an evaluation of one's own resources for dealing with the situation (Cohen, Evans, Stokols, & Krantz, 1986; Walker, Walker, & McLennan, 1986).

Primary and secondary appraisals (and reappraisals) occur repeatedly - before, during and after an event. However, Lazarus (1977) gives special emphasis to the appraisals which precede an activity, partly to counter the widespread tendency to regard coping as something that only follows a stressful event, and partly because he believes that "anticipatory" perceptions play a key role in determining a person's actions and consequent emotions:

> Much coping activity is anticipatory; that is, the person anticipates a future harmful confrontation.... and such anticipation leads him to prepare against the future possibility of harm. To the extent that he prepares effectively, overcoming or avoiding the danger before it materializes, or being better able to function adequately in the anticipated confrontation, he thereby changes the nature of the ultimate transaction, along with the emotions that might have been experienced in the absence of such anticipatory coping. (Lazarus, 1977, p.153).

In seeking to overcome, avoid, or tolerate predicted stressful outcomes, people employ a great variety of coping strategies, including direct action on the stressor, distortion of reality by using defense mechanisms, and direct control of their own emotions (Lazarus, 1977). Some coping strategies are seen as being more effective and more positive than others. For example, Haan (1963, 1977) distinguishes between "coping mechanisms (which are seem as healthy, reality-oriented, and conscious), defense mechanisms (which are regarded as rigid, distorting, and involving unconscious elements), and fragmentary processes (which are repetitive, unresponsive to requirements, and determined by affect needs" (Rutter, 1983, p.28).

Since some coping strategies are more effective than others, an important implication of the previous paragraph is that people need to be taught effective ways of coping with stress. Support for this view can be inferred from the work of Rutter (1983) and Bandura (1982). Rutter concludes his discussion of anticipatory coping by suggesting that there is an inclination for people to attempt only those tasks which they believe they can handle. Bandura states that people shun those tasks which "exceed their perceived coping capabilities" (p.126). In doing so, he seems to establish some common ground between self-efficacy theory and Lazarus' cognitively-oriented theory of coping, for it is apparent that both Lazarus (1977) and Bandura (1982) regard a positive state of mind as an important basis for combatting stress and for facilitating coping:

> Expectations about his power to deal with the environment and master danger are a factor in determining whether the person will feel threatened or challenged by what happens. (Lazarus, 1977, p.149).

Lazarus' views, which were described earlier, about the mediating role of perceptions in relation to people's emotional and physiological responses to stressors place him at odds with Selye whose GAS, rather than being cognitively mediated, constitutes a direct and automatic physiological response to one's stressors:

> Selye argues that the GAS is a universal biological defense reaction aroused by any physically noxious agent.... Mason and I....both have suggested (Lazarus, 1966; Mason, 1971) that the essential mediator of the GAS may be psychological. Therefore, we are saying that the pituitary-adrenal cortical response to disturbed commerce with the environment may require that the animal or person somehow recognize his plight. (Lazarus, 1977, p.146).

In support of this view, Lazarus cites the research of Symington, Currie, Curran and Davidson (1955) and Gray, Ramsey, Villarreal and Krakaner (1956) who "suggest that unconsciousness and anesthesia eliminate the adrenal effects of physiological stress" (Lazarus, 1977, p.147). However,

while it makes sense to recognize the relevance of cognitive/perceptual factors to many, probably most, emotional and physiological responses, it seems inappropriate to state unequivocally that cognition always precedes or mediates emotional and physiological responses and that the latter are totally dependent for their activation on prior cognitions. To illustrate the untenability of such a position, one needs only to consider the generally independent operation of the autonomic nervous system, or the fate of a football fan who attends an exciting match on a cold afternoon. He becomes so engrossed in the match, both emotionally and cognitively, that he is unaware of his physiological responses to the decreasing atmospheric temperature. Only when the game is over does he notice his physical discomfort. A physiological response has occurred, but it was not mediated first by a cognitive response. It seems reasonable to suggest that similar objections apply to the notion of a total reliance of emotional responses on prior cognitive responses.

It is important to note that Lazarus himself does not regard his work as being totally opposed to Selye's. For example, further analysis of the earlier quotation from Lazarus (1977) indicates both that he accepts the GAS concept, and that he is not prepared to state categorically that the essential mediator of the GAS is psychological. Instead, he says only that the GAS <u>may</u> be psychologically mediated, and that it <u>may</u> be necessary for the organism to recognize its plight before the GAS is initiated. Further confirmation of commonalities between Lazarus and Selye is provided by Schradle and Dougher (1985). They indicate that Lazarus (1966) includes "common physiological stress responses" among the points of convergence between his theory and Selye's, and they also imply that the differences between the two theorists, rather than being empirically irreconcilable, tend to reflect differences in disciplinary perspectives and research interests:

> Whereas Selye is primarily interested in the common stages of physiological responses which the organism goes through in reacting to noxious stimuli, Lazarus is more concerned with the mediating psychological processes that underlie threat and precede the physiological responses. (Schradle & Dougher, 1985, p.652).

In view of the preceding arguments, rather than adopting a stance which totally rejects either Lazarus' or Selye's theory, it would seem prudent to choose a more balanced perspective which recognizes the importance of Selye's work in the physiological domain and of Lazarus' work in the cognitive domain. It would seem similarly sensible to recognize that cognition, emotion, and physiological responses are three interrelated systems which all respond to the impact of the environment on the organism - sometimes independently, but most frequently interdependently.

Another angle to consider in searching for an understanding of stress is the role of personality factors in determining responses to stress. Much of the theory and research into the relationship between personality and stress has evolved around the Type A/Type B dichotomy, but valuable insights are also offered through Kobasa's "hardiness" concept, and through Shaffer's discussion of stress-prone personalities.

Although Type A and Type B behaviour patterns are frequently described as personality traits (e.g., Shaffer, 1982; Rutter, 1983), many writers (e.g., Girdano & Everly, 1986; Matteson, Ivancevich, & Gamble, 1987; Cox & MacKay, 1979; Karasek, 1979) take the view that Type A and Type B behaviours are actually learned, or that they are responses to prevailing environmental circumstances, and that it is possible - though it may be difficult - to change one's predominant behaviour pattern.

The Type A/Type B concept was developed by Friedman and Rosenman (1974) who found that Type A behaviour "was a stronger predictor of heart disease than smoking, lack of exercise, poor diet, or obesity" (Rathus & Nevid, 1983, p.247). Rutter (1983) attributes to Type A personalities such characteristics as being hard-driving, competitive, impatient, and aggressive; and to Type B personalities the contrasting qualities of "a more calm and relaxed approach and a tendency to seek goals in a less pressured, less intense manner" (p.14). These descriptions are expanded by Shaffer (1982) who characterizes Type A people as being desperate to succeed at any cost, and Type B people as having a greater capacity to enjoy themselves:

> Type A people are hard-driving, aggressive, hostile, critical, and very demanding. They seek approval more than affection, and will sacrifice family and relationships in order to succeed. They feel frustrated when their goals are thwarted, and they will blame others or external circumstances for their frustrations and losses.... Success, as demonstrated by rising to the top of the corporate ladder, or by having all the material goods anyone could want, seems to be some rite of passage.... (Shaffer, 1982, p.207).

> Type B persons are free of time urgency, but can respond to time demands when realistically desired. Such people are flexible and respond to each situation without a preconceived belief about how they 'should' handle it. These people enjoy vacations and are able to do 'nothing but relax.' They are not driven to compare themselves to peers, nor do they count the number of their achievements.... (Shaffer, 1982, p.211)

People who employ a predominantly Type A pattern of behaviour are generally regarded as being more vulnerable to stress and stress-related illnesses than are Type B people (Shaffer, 1982; Rathus & Nevid, 1983; Rutter, 1983). Rutter indicates "an increased risk of coronary artery disease" among Type A personalities, and Shaffer associates greater incidence of coronary artery disease, frustration, and depression with Type A behaviour. However, Rathus and Nevid sound a note of caution about such findings since they are based on correlational rather than experimental data.

An explanation for differences in the vulnerability of Type A and Type B persons is suggested in the earlier descriptions of Type A and Type B behaviour. Type A people appear to place themselves under much more pressure than do Type B people. This view is supported by Shaffer's (1982) comments about the Type A person's attitude towards time:

> The most prominent characteristic of the Type A personality is time urgency....The Type A personality will attempt to schedule more and more in less and less time. In doing so, he will make fewer and fewer allowances for unforeseen contingencies. (Shaffer, 1982, pp.207-208).

It would seem from the discussion so far that Type A persons bring much of their stress upon themselves. This probably occurs partly as a result of fairly stable personality traits (Shaffer, 1982; Rutter, 1983) and partly as a result of learned behaviours (Matteson, Ivancevich, & Gamble, 1987). However, cognizance also needs to be taken of a third perspective which suggests that Type A behaviour can also be environmentally induced. Sharit and Salvendy (1982) report that under certain circumstances, Type B persons behave like Type A persons. One example of such an occurrence happens when Type B persons are threatened with loss of control over important events and situations (Glass, 1977). Another example involves the possibility that personality measures taken in job situations reflect job differences rather than personality differences (Karasek, 1979).

Since it is frequently difficult to classify individuals as having exclusively Type A or exclusively Type B behaviour patterns, an implication of the previous paragraph is that the Type A/Type B construct is best regarded as a continuum rather than a dichotomy. This is supported by Cox and Mackay's (1979) suggestion that Type A behaviour should be viewed as having a range of intensities in much the same way that there are varying degrees of anxiety (Sharit & Salvendy, 1982). Although it seems possible to identify people whose behaviour is predominantly

either Type A or Type B (Rathus & Nevid, 1983), it is likely that the majority of people occupy a more central position, generally being less extreme in their behaviours than either Type A or Type B people, but on occasions, partly as a result of learning or partly as a result of circumstances, manifesting elements of extreme Type A or Type B behaviour.

The main contribution of Type A/Type B theory to an overall understanding of the stress concept lies in the identification of the personality traits and behaviour patterns which make individuals most vulnerable to stress. Since many Type A behaviours appear to be the result of learning (Matteson, Ivancevich, & Gamble, 1987), it seems reasonable to suggest that, where these behaviours are maladaptive, further learning might be implemented in an effort to substitute more adaptive behaviours (Girdano & Everly, 1986). A part of this process might involve making individuals more aware of the sorts of Type A attitudes and behaviours which lead to increased stress in their own lives. Other steps might include working to increase self-efficacy and internal locus of control, since Shaffer (1982) associates with Type A behaviour such potentially stressful, externally-oriented, and personally downgrading behaviours as blaming others for things that go wrong, constantly seeking the approval of superiors, and being unable to derive self-worth from pursuing life goals that transcend social and economic success.

In considering the role of personality factors in stress relationships, an alternative to the Type A/Type B model is provided by Kobasa (1979) whose "hardiness" construct features strong links both with Lazarus' cognitively-oriented theory of coping, and with the attributional orientations of Rotter and Bandura (see Figure 1, p.19). Hardiness refers to "psychological resiliency", or the capacity to keep on coping happily and healthily with the day to day demands of the environment (Shaffer, 1982).

It consists of three interrelated components: **control**, or a sense of power over the events in one's life; **commitment**, or a feeling of involvement in whatever one is doing; and **challenge**, or a perception that changes are challenges rather than threats (Raphael, 1981; Shaffer, 1982; Wiebe & McCallum, 1986).

According to Kobasa (1979), hardiness plays a very important role in negating the effects of stress (Wiebe & McCallum, 1986). This is illustrated by her research among middle- and upper-level managers in which she found a greater incidence of stress-related illness among managers who were less committed to their work, felt that they had less control over external events, and tended to view change as threatening (Shaffer, 1982).

Shaffer (1982) aligns Kobasa's work with that of Lazarus, when he emphasizes the importance of the hardiness construct in providing an explanation as to why "one person can cope, or even thrive, while another person, subjected to similar pressures, collapses under the strain" (Shaffer, 1982, p.220). Although such factors as increased physical resistance, use of effective coping techniques, differences in cognitive style, and perhaps even genetic variations provide part of the explanation of individual differences in coping abilities, they fail to provide a full explanation. An additional powerful explanation, according to Shaffer, rests with the hardiness construct.

The link between Kobasa and such theorists as Rotter and Bandura becomes apparent through a consideration of the three components of the hardiness model. For example, the "control" factor suggests that "stress-resistant" people are characterized by an internal locus of control. The "commitment" and "challenge" factors suggest a high sense of self-efficacy among these people in that they believe in their capacity to pursue and achieve worthwhile goals.

In addition to hardiness (Kobasa, 1979) and Type A/Type B behaviours (Friedman & Rosenman, 1974), there are many other personality factors which pertain to a discussion of the relationship between personality and stress. Shaffer (1982) and Girdano and Everly (1986) associate with stress-prone personalities such factors as high levels of cognitive dissonance; rigid, negative cognitive styles; obsessive-compulsive personality traits; depression; chronic anxiety; and fearfulness. The sorts of discussions that revolve around such factors have already been illustrated in the analyses of Type A behaviour and hardiness. Nevertheless, two further points are worth making at this stage. First, it is apparent, both from the information contained in this paragraph and from the work reviewed earlier in this section, that personality factors, in addition to physiological factors, are considered by many writers to play an important role in mediating the stress relationship. Second, the sorts of factors which Shaffer (1982) and Girdano and Everly (1986) associate with stress-prone personalities are obviously at variance with the factors of control, commitment, and challenge which constitute the hardy, stress-resistant personality (Kobasa, 1979). In seeking to help stress-prone persons to develop more adaptive behaviours, it may well be appropriate to develop a program which focuses specifically on the hardiness construct.

E. AN INTEGRATED VIEW OF STRESS:

Throughout the preceding discussion of stress theories - from the physiological theory of Hans Selye (1974, 1979) to the attributional theories of Bandura (1982, 1986), Rotter (1966), de Charms (1968), and Seligman (1975), the cumulative effects theories of Holmes and Rahe (1967) and Lazarus (1966, 1977), and the personality theories of Friedman and Rosenman (1974) and Kobasa (1979) - it has been

apparent that there are important links among even the most diverse points of view. Quite strong links have already been established between the physiological perspective and the various psychological perspectives. Such links are further strengthened by the work of Dohrenwend (1961) and Kagan and Levi (1971) who successfully adapted Selye's physiological model in order to evaluate psychological stress (Dobson, 1982); Girdano and Everly (1986) whose holistic approach to controlling stress depends on a recognition of the complementarity of mind and body; and Selye himself whose recognition and embracement of the psychological domain (Selye, 1979) has already been discussed.

As an engineer, an architect, and a decorator might disagree over what constitutes the most important feature of a building, and as a teacher, a student, and a parent might quarrel over what constitutes an appropriate school curriculum, so stress theorists argue over the details of exactly what constitutes stress. In the cases of the building and the curriculum, it seems reasonable to suggest that each of the persons mentioned above views the issues under consideration from a different but legitimate perspective, and that, if shared, the various individual understandings have the potential to enrich the understanding of the whole group. A similar argument applies in the case of stress theorists. Coming from a variety of disciplinary perspectives, they each have a contribution to make to the overall understanding of the meaning of stress. For this reason, and because of the many commonalities among the various stress theorists reviewed in this paper, it seems appropriate to compile a composite description - based on the rich diversity of theoretical perspectives - of what constitutes the concept stress:

* As indicated earlier, "stress" is a global term for an area of study dealing with the demands which tax a system, and with the responses which the system makes

to those taxing demands (Beehr & Newman, 1978, p.669). Within individuals, two major interrelated systems which are affected by stress are the physiological system and the psychological system. These systems each respond, sometimes independently, but most frequently interdependently, to the impact of the environment.

* Stress includes a nonspecific response by the body to the demands which are made upon it (Selye, 1973). This response, which is known as the General Adaptation Syndrome (Selye, 1974), involves successive stages of alarm, resistance, and in extreme cases, exhaustion (Selye, 1979). Along with the nonspecific response, different stressors produce different specific effects both physiologically and psychologically.

* Although there may be a positive role for mild stress (Selye, 1973, 1979; Bee & Mitchell, 1980; Dobson, 1982; Waterhouse, 1984), excessive stress is debilitating and undesirable (Selye, 1973; Dobson, 1982; Cohen, Evans, Stokols, & Krantz, 1986). Each person has only a limited amount of energy to apply to coping with stress, and pathogenic effects may occur as a result of the body's coping efforts (Selye, 1979; Rahe, 1979; Cohen, Evans, Stokols, & Krantz, 1986).

* The personal factors associated with vulnerability to stress include low self-efficacy, external locus of control, and learned helplessness. A strong sense of self-efficacy causes individuals to perceive events as less stressful, to experience less stress, and to cope more effectively with whatever stress does arise (Bandura, 1981; 1982; Morgan, Owen, Miller, & Watts, 1986). When self-efficacy is low, events tend to be perceived as threatening, but when self-efficacy is high, events tend to be perceived as challenging (Schwarzer & Schwarzer, 1982). A real or imagined sense of control

over self or environment is a powerful stress-reducing mechanism (Girdano & Everly, 1986, p.99). Feelings of hopelessness and helplessness are fundamental causes of excessive stress (Girdano & Everly, 1986).

* Both positive and negative life changes elicit a stress response (Rahe, 1979), but negative events are generally more stressful than positive events (Girdano & Everly, 1986). Daily hassles, which are proximal measures of stress, are frequently better predictors of stress than are life events, which are distal measures of stress (Holahan, Holahan, & Belk, 1984; Girdano & Everly, 1986). Individual differences (e.g., in perception) play an important role in determining how people respond to life events (Lazarus, 1966, 1977; Holmes & Rahe, 1967; Rahe et al., 1974; Rahe, 1979).

* Perceptions may frequently precede and mediate emotional and physiological responses to stressors (Lazarus, 1980). However, it is inappropriate to state unequivocally that cognition always precedes or mediates emotional and physiological responses and that the latter are totally dependent for their activation on prior cognitions.

* Coping involves balancing the perceived threat or challenge of a situation (primary appraisal) against one's perceived resources for dealing with the situation (secondary appraisal) (Cohen, Evans, Stokols, & Krantz, 1986; Walker, Walker, & McLennan, 1986). Primary and secondary appraisals occur repeatedly, with much coping activity being anticipatory (Lazarus, 1977). Frequently used coping strategies are direct action on the stressor, distortion of reality by using defense mechanisms, and direct control of one's own emotions (Lazarus, 1977). Other strategies include positive thinking and decisive action (Selye, 1979).

* People who employ a predominantly Type A pattern of behaviour are more vulnerable to stress-related illnesses than are Type B people (Shaffer, 1982; Rathus & Nevid, 1983; Rutter, 1983). Type A people place themselves under more pressure than do Type B people, partly as a result of fairly stable personality traits (Shaffer, 1982; Rutter, 1983) and partly as a result of learned behaviours (Matteson, Ivancevich, & Gamble, 1987). Type A behaviour can also be environmentally induced (Glass, 1977; Sharit & Salvendy, 1982). The Type A/Type B construct is best regarded as a continuum (Cox & Mackay, 1979), with most people lying somewhere between the extremes.

* Finally, hardiness (Kobasa, 1979) plays an important role in negating the effects of stress (Wiebe & McCallum, 1986). Stress-resistant (hardy) people are characterized by internal locus of control and a high sense of self-efficacy.

F. STRESS IN ADOLESCENTS:

The purpose of this section is to explore in greater depth the claim that was made at the outset that stress is becoming an increasingly disturbing factor in the lives of adolescents. What corroborative evidence is there for Elkind's (1984) claim that stress-related problems among American teenagers have trebled since 1970? What evidence is there that a similar problem may exist among Australian adolescents?

During the twentieth century, two distinct traditions have grown up with respect to the investigation of the occurrence of stress during adolescence. The classical view, which has its roots in psychoanalytical theory and in G.S. Hall's (1904) conceptualization of adolescence as a time of "storm and stress", regards stress as a normative,

universal, biologically-determined part of adolescence. In contrast, the empirical view, which is based largely on the interpretation of research findings, takes the position that, although adolescence has the potential to be a stressful experience, it is generally relatively calm for most adolescents (Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984; Berzonsky, 1982).

The classical perspective is strongly rejected by many writers. For example, Dusek and Flaherty (1981) report finding "no evidence in our data to support the storm and stress view of adolescence" (p.47). Nottelmann (1987) sums up his review of the research of the past two decades by stating that "adolescent turmoil appears to be the exception rather than the rule" (p.441). Petersen, Schulenberg, Abramowitz, Offer, and Jarcho (1984) report that "the theoretical perspective proposing that all adolescents experience turmoil is ... not supported by the data" (p.96). Siddique and D'Arcy (1984) regard developmental stresses and adaptations as a normal part of adolescence, but state that "the full-blown storm and stress syndrome appears to be relatively limited" (p.471). Finally, one of the strongest "anti-classical" statements is made by Adelson (1985):

> Teenagers evoke a remarkable capacity for mystification and illusion; thus, the field is rife with notions that have, until now, resisted both evidence and common sense. The most persistent of these false beliefs is the assumption that adolescence is an era marked by the child's teetering on the edge of psychopathology.... there seems to be no study yet undertaken that supports a view of adolescence as normatively stressful. (Adelson, 1985, p.251).

Adelson argues that the proportion of disturbed adolescents matches the proportion of disturbed adults. However, this claim probably needs to be modified slightly in view of reports from Rutter, Graham, Chadwick, and Yule (1976) and Siddique and D'Arcy (1984) that there is "a somewhat greater prevalence of minor psychiatric morbidity among adolescents than among children and adults" (Siddique & D'Arcy, 1984, p.460).

Criticism is not only directed towards the classical view. There has also been criticism of the empirical position. For example, Berzonsky (1982) argues that both the classical and the empirical views may present distorted perspectives on adolescence because they are each based on an incomplete sampling of the adolescent population. On the one hand, the proponents of the classical position may have overestimated the incidence of stress among adolescents because they have based their views on the teenage clientele most frequently encountered by psychoanalysts and clinicians, namely "disturbed adolescents who have severe emotional problems" (p.212). On the other hand, the advocates of the empirical position may have underestimated the incidence of stress among adolescents because they have been influenced in a quite different but equally biased way by the non-clinical, frequently middle-class adolescents who have been the principal source of their data. As one approach to resolving the differences between the classical and the empirical positions, Berzonsky rejects an exclusively dichotomous conceptualization of adolescent stress and proposes a continuum of stress in which the classical and empirical poles represent the possible extremes in the adolescent experience of stress, with the majority of adolescents encountering stress at a more intermediate level:

> The controversy over adolescent storm and stress is typically presented in a qualitative all-or-none fashion; either adolescence is a time of intense turmoil or it is not. It may be more fruitful to reconceptualize the issue in quantitative terms. We will assume that a continuum of stress exists and that within a group of adolescents interindividual differences in stress may be found: Some adolescents experience a great deal, others very little, and the rest fall between these extremes. (Berzonsky, 1982, pp.211-212).

Like Berzonsky, the majority of current writers in the area of adolescent stress appear to promote neither a classical nor an empirical position. However, most writers do acknowledge the reality of at least some stress, or

potential for stress, among adolescents. The extent to which adolescence is stressful is generally seen as depending on the impact of such environmental factors as school (Safer, 1986; Marsland, 1987; Schinke, Schilling, & Snow, 1987), family (Siddique & D'Arcy, 1984; Montemayor & Adams, 1985), community (Coleman, 1987), and peer group (Mitman & Packer, 1982; Siddique & D'Arcy, 1984), and such personal factors as cognitive capacity (Siddique & D'Arcy, 1984), academic achievement (Fukuda & Hozumi, 1987), learned coping strategies (Cohen, Evans, Stokols, & Krantz, 1986), flexibility (Cohen, Evans, Stokols, & Krantz, 1986), boredom (Girdano & Everly, 1986), role conflicts (Coleman, 1987), and physical and sexual development (Siddique & D'Arcy, 1984) - as well as the kinds of factors mentioned in the earlier general discussion of the stress concept: self-efficacy (Bandura, 1982; 1986), locus of control (Rotter, 1966), learned helplessness (Seligman, 1975), Type A/Type B personalities (Girdano & Everly, 1986), hardiness (Kobasa, 1979), and stress prone personalities (Shaffer, 1982).

The authors listed in the previous paragraph are representative of the quite extensive overseas literature dealing with adolescent stress. A review of this literature indicates that, almost a century after G.S. Hall, the investigation of adolescent stress remains a worthwhile field of academic endeavour. It also reveals that, in spite of the widespread view that "storm and stress" is not a biologically determined and essential aspect of adolescence, there are nevertheless a great many adolescents who, as a consequence of such environmental factors as school, family, community, and peer group, and such personal factors as cognitive, physical, social, and emotional development, are vulnerable to stress.

In the school context, Elkind (1984) uses such educational reports as Gardner and Larsen (1983) and Boyer (1983) to argue that American secondary schools are placing

added pressure on teenagers by failing to provide them with a protected environment in which they can start to develop a personal sense of identity. He believes that the trend towards larger schools, the proliferation of the smorgasbord curriculum, and the psychological disengagement of many teachers are placing students under increasing strain by making it more difficult for them to discover and develop their individual interests and potentials. Pressure also comes through "a seemingly endless series of foreseeable and unavoidable demands" as well as "the lawlessness of schools, the prevalence of theft, sexual activity, violence, and substance abuse" (Elkind, 1984, pp.182, 183).

Girdano & Everly (1986) extend Elkind's picture of the school as a stressful place by focussing principally on academic pressure. In a statement which appears to be reminiscent of secondary education in Australia, they refer to excessive competition for tertiary places, and argue that the consequences for many students include dropping out, poor self-concept, and severe mental disturbances. A similar stance is adopted by Eskilson, Wiley, Muehlbauer, & Dodder (1986):

> The dominant values of competition and achievement which permeate the community place inordinate pressure to succeed upon young people, and may lead to a sense of failure among many young people. (Eskilson, Wiley, Muehlbauer, & Dodder, 1986, p.502).

In similar vein, O'Malley and Bachman (1983) state that for many adolescents school-related experiences have predominantly negative effects on self-esteem, and Garbarino (1985) refers to such negative outcomes of America's system of "contest mobility" as low morale and lack of a mutually satisfying relationship between students and teachers (Garbarino & Asp, 1981). Dacey (1982) extends the picture of student alienation and stress by referring to secondary schools as angry places where conflict is the norm.

A frequently discussed source of school-related stress for some American adolescents is the transition from one level of education to another. For example, as early adolescents move from primary school to junior high school, many of them are reported to worry about such things as school failure (Schinke, Schilling, & Snow, 1987); increased academic demands, bullying, and stealing (Mitman & Packer, 1982); changing from having a single teacher and to having multiple teachers (Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984); and feeling anonymous in a school which is much larger than their previous school (Blyth, Simmons, & Carlton-Ford, 1983). However, these views need to be balanced against Safer's (1986) more moderate claim that transition to junior high is commonly a mild stress lasting just a few months.

The phenomenon of increasing stress among secondary students appears not to be limited just to the United States. A comparative study of academic stress among English and American adolescents by West, Willis, & Sharp (1982) revealed similar amounts of school-related stress in both cultures. Adolescents in both countries listed school-related problems, particularly the excessive demands of schooling, as their biggest stressors, while educators in both countries were concerned about the incidence of stress among secondary students. As illustrated in the later work of British writer, Marsland (1987), there was widespread concern about the negative impact on students of school organization, curriculum, and teaching methods which seemed to take little account of the needs of adolescents. Further highlighting the relevance of stress as a factor in adolescent education, another English study (Rutter, Graham, Chadwick, & Yule, 1976) provided evidence that secondary schooling is more stressful than primary schooling. These researchers found that depression was much more common at age 14 than at age 10 and identified 15 cases of school refusal at age 14 compared with none at age 10.

Writings from other countries lend further support to the view that stress is a significant factor in the schooling of adolescents. In Canada, although Siddique & D'Arcy (1984) indicated that the large majority of adolescents coped well with school, they also found that a significant minority experienced "problems, distress, and turmoil" (p.471). In Hong Kong, Law (1978) attributed significant psychological distress before exams and prolonged despair following unsatisfactory results to intense competition for limited numbers of tertiary places and excessive pressure from parents who placed high value on a formal education. Finally, in Japan, Smolowe, Dahlby, Lewis, & Takayama (1984) found that only 24.5 percent of Japanese students were satisfied with school life. They attributed high stress levels to "examination hell" - a scramble for educational qualifications which begins in kindergarten and haunts students all the way to the completion of their tertiary studies.

In representing adolescents as a generation which is increasingly under pressure, Elkind (1984) focuses much of his attention on the role of the family. He points to such increasing changes to the traditional family structure as separation, divorce, single-parent families, teenage parenthood, and even two-career couples as all placing pressure on children and adolescents to grow up more quickly, partly through threatening the stability of their environment, and partly because they are likely to cause adults to spend less time in nurturing their children. Divorce in particular is seen as increasing the vulnerability of children and adolescents, with the number affected by divorce and separation doubling between 1970 and 1979, and with more than 20 per cent of all under-eighteen-year-olds in the United States now living with only one parent. Elkind argues that the effects of divorce are frequently more devastating for adolescents than for their younger siblings:

> Teenagers, thanks to their ability to think in a new key, can appreciate the full impact of divorce - its emotional, personal, social, and financial repercussions. By contrast, children are protected from these multiple concerns by their limited mental abilities. (Elkind, 1984, p.117).

Elkind's views are supported by McNamee (1982), Solnit (cited by McNamee, 1982), and Eskilson, Wiley, Muehlbauer, and Dodder, 1986). Solnit states that "divorce is one of the most serious and complex mental health crises facing children of the 80's." (McNamee, 1982, p.38). McNamee indicates that one of the things which exacerbates the problems of divorce is that it is not a single uncomplicated event. It involves a series of ongoing changes, each potentially stressful and each requiring adjustments from all members of the families involved:

> Five stages of the divorce process present unique stress factors for a child: 1) family discord, 2) family separation and divorce, 3) single-parent household, 4) step-parent household, 5) step- and half-siblings in the household. (McNamee, 1982, p.38).

Eskilson and his associates (1986) argue that adolescent self-esteem is positively correlated with parental interest and encouragement. Parental neglect (a distinct danger when parents are preoccupied with the events surrounding divorce) can result in self-rejecting attitudes and consequent stress.

In the context of community, Elkind's (1984) discussion focuses on the pressures which American society places on both children and adolescents to grow up in a hurry. This is illustrated by what Elkind refers to as the "vanishing markers" of childhood and adolescence - distinctive behaviours and customs of these age groups which are being lost in the press towards dressing even the youngest children like miniature adults; towards engaging children in adultlike activities such as beauty contests and highly competitive "little league" sporting activities;

and towards reducing the age for permitting such indicators of acceptance into adulthood as legalized drinking and obtaining a driver's licence. According to Elkind, the pressures of behaving like an adult and accepting the responsibilities of adulthood are being placed on adolescents (and children) prematurely. Pressure comes not only from schools and parents but also from the media, merchandizers, the peer group, and the community as a whole (Coleman, 1987). This theme permeates much of Elkind's recent work. For example, in 1981 he refers to "a new pressure to hurry and grow up" (p.xii):

> As a society we have come to imagine that it is good for young people to mature rapidly. Yet we do our children harm when we hurry them through childhood. (Elkind, 1981, p.3).

Elkind pursues this same theme again in a 1987 paper when he refers first to the pressures on younger and younger children to achieve excellence both academically and in sport, and then to the increasing trend among high school students to seek private tutoring in the pursuit of better access to tertiary education. He asserts that "play is out and competition is in" (p.60), and that the result is increased stress symptoms.

Elkind's argument is impressive, but one is forced to wonder whether it is at least partially flawed in view of the fact that Margaret Mead wrote of similar trends twenty years earlier. In her 1965 paper Mead stated that American adolescents were expected to mimic the ways of adults long before they were emotionally ready; argued that great precocity was generally rewarded in American society; and pointed to boredom at school as one of the factors which led American teenagers to reach prematurely for such signs of adulthood as wearing adult clothing, dating, spending money, and using alcohol. Mead's statement raises the question of whether the increase in the stressfulness of adolescence during the past twenty years is merely an illusion. However, most of the writers reviewed in this section seem to

provide support for Elkind's view, and it is important to note that a review of Mead's paper, whilst raising questions about differences between generations of adolescents, does not jeopardize the view that stress is an important issue in adolescent development in the 1980s.

In the context of the peer group, Elkind (1984) associates stress with the shock of moving from the culture of childhood to the culture of adolescence. Early adolescents are said to be vulnerable: (a) to the shock of exclusion, with widespread acceptance by their childhood peers being replaced by rejection based on social prejudice and "cliquishness"; (b) to the shock of betrayal, which happens when trust, loyalty, and generosity are not reciprocated; and (c) to the shock of disillusion, which occurs when teenagers discover that newly found objects of their affection turn out not to be as perfect as first imagined. Elkind regards such shocks as necessary for building a "healthy sense of personal identity" (p.89), but he also sees them as constituting an added strain on young adolescent, particularly when coinciding with some of the other changes associated with puberty:

> When the shocks associated with initiation into the culture of adolescence are combined with those associated with thinking in a new key and the perils of puberty, the teenager is confronted by a formidable array of stresses. (Elkind, 1984, p.89).

Berzonsky (1982) agrees that the issue of peer acceptance is an important stressor for adolescents. This is also true of Coleman (1987) who identifies the peer group as one of the sources of "a wide range of potential conflicts in values and ideals" (p.26), and Eskilson, Wiley, Muehlbauer and Dodder (1986) who indicate that the peer group, along with parents and the school, plays a large role in determining whether or not adolescents develop a sense of competence. However, while acknowledging the stressfulness of peer relations for a significant minority of

adolescents, Siddique and D'Arcy (1984) find that the large majority of adolescents cope effectively with the demands of interacting with their peers; Mitchell (1979) suggests that "the peer group is not nearly as important to adolescents as most 'experts' want us to believe" (p.202); and Mitman and Packer (1982) report that young adolescents have more concerns about their academic work than about the social aspects of their lives. It would seem that Elkind's reference to the "formidable array of stresses" which confront all teenagers may not be totally apt in the context of the peer group and may need to be tempered a little by the more moderate views of some of the other writers mentioned in this paragraph. The consequent restatement of Elkind's proposition, with special reference to peer groups, is that the overseas literature on adolescent stress indicates that the peer group is one of many potential sources of stress for many teenagers.

In addition to the environmental factors which have been discussed so far, there are also many personal factors (subject to individual differences) which help to determine stress levels in adolescents. For example, higher levels of stress seem more likely to be associated with: (a) having to adjust to the development of higher-level cognitive abilities (Elkind, 1984; Siddique & D'Arcy, 1984); (b) inadequate communication skills (Hauser, Vierya, Jacobson, & Wertlieb, 1985); (c) inferior academic performance (Fukuda & Hozumi, 1987); (d) less well-developed coping strategies (Cohen, Evans, Stokols, & Krantz, 1986); (e) inadequate social skills (Hauser, Vierya, Jacobson, & Wertlieb, 1985); (f) negative perceptions of the environment and one's role within it (Siddique & D'Arcy, 1984); (g) boredom (Girdano & Everly, 1986); (h) role confusion (Coleman, 1987); and (i) rigidity (Cohen, Evans, Stokols, & Krantz, 1986); not to mention (j) the rigours of physical and sexual development (Berzonsky, 1982; Elkind, 1984; Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984; Siddique & D'Arcy, 1984;

Coleman, 1987); as well as (k) many of the personality factors which have already been mentioned in the earlier discussion of the stress literature - e.g., high self-efficacy (Bandura,1982, 1986); external locus of control (Siddique & D'Arcy, 1984; Hauser, Vierya, Jacobson, & Wertlieb, 1985); learned helplessness (Nolen-Hoeksema, Grigus, & Seligman, 1986); Type A personality (Fontana & Dovidio, 1984; Girdano & Everly, 1986); and lack of hardiness (Kobasa, 1982).

So far this review of the literature relating to adolescent stress has dealt only with overseas sources. Attention now turns to the much less extensive Australian literature dealing with the same topic. To what extent does the Australian literature appear to support the overseas findings?

Much of the stress-related literature dealing with Australian adolescents focuses on the context of the school. However, as with the American literature, there are also references to the contexts of family, community, and peer group. For example, Watson (1985) writes of the pressures on adolescents to comply with the frequently conflicting demands of parents, teachers, employers, and society. Strutynski (1985) identifies the major problems of Year 10, 11, and 12 students in Queensland as including peer group relationships, worry about the possibility of unemployment, relationships with parents and teachers, and school workload. In work which is supportive of Elkind's (1984) view that stress among adolescents is increasing, Wilson and Arnold (1986) and Wilson and Wyn (1987) indicate that important stressors for Australian adolescents include worries about education and employment, concerns about degradation of the environment, fear of a nuclear holocaust, and peer group relationships, as well as family relationships, pressure from parents to do well in school, and personal stresses:

> It is apparent that all young people are under strain in a society which has rapidly changing mores. (Wilson & Arnold, 1986, p.6).

Indirect reference to the stressfulness of secondary schooling in Australia is made by Coyne (1986) who notes the predominance of the competitive academic curriculum and alludes to the negative impact on many secondary students of the existence of insufficient tertiary places to satisfy the ambitions of many high school graduates. Wilson and Arnold are more direct. They cite students who state that "school puts too much pressure on kids" (p.11) and that "pressures at school at times are unbelievable" (p.14). Like Elkind in the United States, Wilson and Wyn (1987) present a picture of excessive stress when they refer to students who leave school early because of the competitive nature of schooling, their perceived inability to cope, work which is too difficult, excessive homework, and boring lessons.

Other aspects of schooling which are potentially stressful in Australia (as in the United States) are the primary-secondary transition (Cotterell, 1979, 1982; Cotterell & Power, 1988) and the secondary-post-secondary transition (Carpenter, 1986; Mishinski, 1986). Cotterell (1982) includes among the stressors of beginning secondary students continued anxiety about organizational aspects of school, feeling threatened by the presence and behaviour of older students, increasing anxiety about school work, declining interest in learning experiences, and limited interpersonal support. Carpenter (1986) points out that student stress has long been associated with the senior years of high school when young people have to make decisions which will largely determine their futures. Finally, Mishinski (1986) refers to the scramble for places in Queensland tertiary institutions:

> Young people in Year 12 who have done all that you could ask of them, are facing the horrible realisation that no matter how well they achieve at school, unless they are brilliant, they can't go any further; not because they don't deserve to, but because there are not enough places. (Mishinski, 1986, p.5).

Another potential stressor for Australian adolescents which has attracted considerable discussion is unemployment. Wilson and Arnold (1986) put the unemployment figure for 15- to 19-year-olds at 25 per cent. However, these frequently cited figures are disputed by Brewster, Whitham, Ey, & McCann (1985) because they are based only on adolescents who are in the job market. If the adolescents who are involved in full-time schooling are regarded as being "employed" then the figure of 25 per cent drops dramatically to around 10 per cent. Nevertheless, even the more conservative figures suggest that the spectre of unemployment is likely to be stressful for many adolescents. ANOP (1985) reports that obtaining work is the main goal for young people, and that the prospect of unemployment is their greatest source of insecurity. Tiggemann & Winefield (1980) state that "unemployment has profound psychological consequences for the individual, especially with regard to self-esteem" (p.269). They report that stress-inducing outcomes of chronic unemployment among the young frequently include boredom, loneliness, depression, drug abuse, and crime, and may even include health problems and suicide.

On the basis of the material reviewed in the preceding discussion, it seems reasonable to assert that stress is an important issue in adolescent development both in the United States and in Australia. The views expressed in the stress literatures of the two countries seem to be very similar. However, while the American literature is extensive, the Australian literature is much more limited, and it would be inappropriate without further research to assert that the findings of such American writers as Elkind (1984), Schinke, Schilling, and Snow (1987), McNamee (1982), Coleman (1987), and Berzonsky (1982) are applicable in Australia. It is this

kind of reasoning which provided the justification for proceeding with an investigation whose purpose was to extend Australian research in the area of adolescent stress by seeking answers to the questions raised at the beginning of this chapter:

1. To what extent is stress an important issue in adolescent development in Australia?
2. What are the major causes of stress among Australian adolescents?
3. Are there identifiable groups of Australian adolescents who are more stressed than others?
4. What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?

CHAPTER 3: DATA COLLECTION

A. MEASURING STRESS:

A major problem in conducting research into stress-related factors is the selection of instruments. The difficulty of choosing is shaped not only by the variety of theoretical orientations discussed in Chapter 2 but also by such practicalities as the validity and reliability of the instruments, the suitability of the instruments to the chosen Subjects (Ss), and the relevance of the instruments to the focus of the research - not to mention the confusing proliferation of available instruments! It is probably not too much of an exaggeration to suggest that there are nearly as many instruments for measuring stress as there are investigators of the stress phenomenon.

This point is well illustrated in the field of life events research. Holmes and Rahe's (1967) pioneering work in this area has generated massive amounts of follow-up research. However, although Holmes and Rahe's Social Readjustment Rating Scale (SRRS) is widely acknowledged (Bee & Mitchell, 1980; Rathus & Nevid, 1983; Girdano & Everly, 1986; Johnson, 1986), rather than using it, many researchers have chosen to modify the SRRS, sometimes quite extensively, in an attempt to tailor it more effectively to the specific contexts of their own research. The result is such instruments as the Schedule of Recent Experiences (Rahe, et al., 1974; Rahe, Ryman, & Ward, 1980), the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978; Wiebe & McCallum, 1986), and the Modifiers and Perceived Stress Scale (Linn, 1986) which are specifically designed for use with adults; the Positive and Negative Impact Scale (Zimmerman, 1983), the College Schedule of Recent Experiences (Marx, Garrity, & Bowers, 1975), and the Academic Stress Scale (Kohn & Frazer, 1986) which seek information about stress among college students; the Adolescent Life Change Event Scale (Yeaworth, York, Hussey, Ingle, & Goodwin, 1980), the Junior High Life

Experiences Survey (Swearingen & Cohen, 1985), and the Life Events Questionnaire (Newcomb, Huba, & Bentler, 1981, 1986; Compas, Slavin, Wagner, & Vannatta, 1986) which are intended mainly for use with adolescents; the Coddington Life Stress Scale (Coddington, 1972a, 1972b) and the Life Events Checklist (Brand & Johnson, 1982; Johnson & McCutcheon, 1980; Johnson, 1986) which have been used with both children and adolescents; and the Stress Rating Scale (Yamamoto & Phillips, 1981; Yamamoto & Felsenthal, 1982; Yamamoto & Davis, 1982) which focuses on the life events of children.

Similarly wide-ranging variations are found in the stress instruments which derive from other theoretical orientations. For example, in Type A/Type B research, instruments which have been used with children and adolescents include: the Jenkins Activity Survey (Murray & Bruhn, 1983); the Student Version of the Jenkins Activity Survey (Glass, 1977; Fontana and Dovidio, 1984); the Student Type A Behavior Scale (Kirmil-Gray, et al., 1987); the Matthews Youth Test for Health (Matthews & Angulo, 1980; Murray and Bruhn, 1983; Kirmil-Gray, et al., 1987); the Miami Structured Interview (Gerace and Smith, 1985) the Adolescent Structured Interview (Siegel & Leitch, 1981); the A-B Rating Scale (Wolf, et al., 1982); and the Bortner Adjective Rating Scale (Siegel and Leitch, 1981).

In the research dealing with coping, measures of stress have been made through the State-Trait Anxiety Inventory (Wehr & Kaufman, 1987), the children's version of the Student Stress Inventory (Stanton, 1985), the College Student's Life Events Inventory (Hart, Turner, & Cardozo, 1987), the Uplifts and Hassles Scales (Kanner, Coyne, Schaefer, & Lazarus, 1981; Hart, Turner, & Cardozo, 1987), Berkman's Life Events Scale (Kanner, et al., 1981), and the Perceived Competence Scale for Children (Harter, 1982), as well as the various daily hassle and major event inventories used by Elwood (1987).

The extensive range of stress instruments created by researchers is also apparent among workers whose research embraces such focuses as self-efficacy, locus of control, and learned helplessness. For example, in order to examine the relationship between self-efficacy and stress, Morgan, Owen, Miller and Watts (1986) employ a 10-item stress scale to seek Ss' responses to each of four pre-selected descriptions of stressful situations. However, when Holahan, Holahan, and Belk (1984) seek to evaluate the same relationship, they use as their stress measures the Negative Life Change Index, the Daily Hassles Index, and the Index of Depression. McMurray's studies of the relationships between locus of control, coping strategies, and dental stress in children use as their stress measure the Pictorial Dental Anxiety Scale (McMurray, et al., 1985; McMurray, et al., 1987), while Siddique & D'Arcy's (1984) study among Canadian adolescents of the relationships between locus of control, mental health, and stress uses Goldberg's (1978) General Health Questionnaire as its stress measure. In contrast, in Kazdin, Rodgers, & Colbus' (1986) study of learned helplessness stress-related measures are made through the Children's Depression Inventory, the Belleview Index of Depression, and the Child Behavior Checklist.

Although the vast majority of stress studies appear to have sought data through questionnaires composed of closed (as opposed to open-ended) questions, there are some exceptions to this rule. For example, Australian researchers who have taken a more open approach include Cotterell (1982) whose Ss were required to keep daily diaries detailing their experiences at school; Poole (1984) who invited Ss to write an essay on the topic, "The school that I'd like"; and Strutynski (1985) whose open-ended approach included such questions as "What are the three most difficult problems which teenagers today have to overcome?" and "What do you think are the good things and what are the problems of school?" These types of open-ended questions were generally

avoided in the present study (there were two exceptions which are discussed on page 81) because it was felt that an open-ended approach would provide the researcher with less control than a more directive approach over the extent to which Ss would address the major issues of the project.

In the present study a considerable effort was expended on searching the stress literature for instruments which would be suitable for exploring the research questions listed on page 64. The search was only partially successful, partly because many instruments were too specific in their focus, and partly because many were considered to be flawed either in their conceptualization or in their construction (see, for instance, the criticisms of life events research on pages 30-35). Another problem with many of the overseas instruments was that their very source frequently meant that they were unable to focus clearly enough on some of the specific environmental factors (e.g., secondary education in a Queensland context, tertiary entrance scores, and ASAT tests) which surrounded the present study. It was important for the instruments to contain overseas items to enable comparisons between the findings of the present study and the findings of overseas research, but it was also important, both in terms of face validity and in terms of relevance to the Ss, for the questionnaires to contain appropriate Australian content.

As a result of the concerns expressed in the previous paragraph, the present writer found himself in a similar position to most of the other researchers who have been reviewed in this chapter. It was found necessary to adapt, select, and create from the existing range of stress measures in order to derive a battery of instruments (see Appendix 1) which were capable of addressing the central issues of the present study. The battery consisted of: (a) the Australian Adolescent Problems Inventory (AAPI) which was specially constructed for this study and which takes account of Strutynski's (1985) findings in Australia

and Kohn and Frazer's (1986) Academic Stress Scale from the United States; (b) the Adolescent Coping Inventory (ACI) which was adapted for Australian Ss from Patterson and McCubbin's (1987) Adolescent Coping Orientation (A-COPE); (c) the General Health Questionnaire (GHQ-12), a widely used and validated stress measure, which was used in its original form; and (d) the Biographical Information (BI) checklist which was specially constructed to provide relevant background information about Ss. The nature and purpose of each of these instruments is discussed on pages 71 to 84.

B. SUBJECTS:

The research reported in this paper is based on the responses of 1664 students (Ss) from seven secondary schools located in a large provincial city in South-East Queensland. The real names of the schools have been suppressed in order to honour the researcher's undertaking to maintain the anonymity of the participants. The schools were specially selected to represent as wide a range of educational settings as possible. Consequently the study includes three co-educational government schools, two single-sex non-Church independent schools, and two single-sex Catholic schools. Throughout the report, the government schools are referred to as Warrego State High School (WSHS), Maranoa State High School (MSHS), and Diamantina State High School (DSHS); the non-Church independent schools are identified as Independent Ladies' College (ILC) and Independent Boys' College (IBC); and the Catholic schools are called Catholic Ladies' College (CLC) and Catholic Boys' College (CBC). Full details of the distribution of Ss by school, grade, and sex are presented in Table 1.

TABLE 1

The Distribution by School, Grade, and Sex of Students Participating in the Present Study

	Year 8		Year 9		Year 10		Year 11		Year 12		School Totals		
	M	F	M	F	M	F	M	F	M	F	M	F	TOTAL
(a) Government Schools:													
Warrego SHS	25	20	17	21	14	24	36	35	11	19	103	119	222
Maranoa SHS	25	24	29	16	21	37	12	28	29	24	116	129	245
Diamantina SHS	26	20	7	34	22	29	15	32	16	26	86	141	227
State High School Totals	76	64	53	71	57	90	63	95	56	69	305	389	694
(b) Independent Schools:													
Independent Ladies' College	--	60	--	60	--	60	--	60	--	60	---	300	300
Independent Boys' College	60	--	60	--	60	--	60	--	60	--	300	---	300
Independent Schools Totals	60	60	60	60	60	60	60	60	60	60	300	300	600
(c) Catholic Schools:													
Catholic Ladies' College	--	26	--	29	--	30	--	30	--	36	---	151	151
Catholic Boys' College	52	--	40	--	44	--	50	--	33	--	219	---	219
Catholic Schools Totals	52	26	40	29	44	30	50	30	33	36	219	151	370
All Schools Totals	188	150	153	160	161	180	173	185	149	165	824	840	1664
	338		313		341		358		314		1664		

Within each school, Ss were selected, as far as possible, to give a true representation of the students within that school. For example, at Independent Ladies College Ss were selected randomly. At the other schools random selection was not possible but the school's administrators cooperated in attempting to select classes which were considered to be typical of the student population. Initially it had been hoped to have equal

numbers of Ss from each school. This was actually achieved (with some difficulty) at Independent Ladies' College and Independent Boys' College, but it proved impractical both in time and in student availability to pursue this goal in most schools. The researcher ultimately settled for gathering data from as many Ss as each school was prepared to provide.

Following data collection, it would have been possible to produce even numbers across some groups (e.g., schools) by randomly selecting from the total pool for each group the desired number of completed questionnaires. The result would have been to sacrifice considerable quantities of data. For example, reducing the sample size for each school to match the Catholic Ladies' College sample of 151 Ss would have reduced the overall sample from 1664 to 1057. It seemed far preferable to use all available data, especially as uneven numbers would generally not impede the sorts of data analyses that were planned (see Chapter 4). It is interesting to note that the essentially random process of accepting whatever samples were provided by schools resulted in an overall sample which was very evenly distributed by sex (824 males and 840 females) and also by grade (Ss totalled 338, 313, 341, 358, and 314 across the five year levels).

C. INSTRUMENTATION:

In order to seek data relating to the four major research questions (see page 64), use was made of: (a) the Australian Adolescent Problems Inventory (AAPI) which was specially constructed for this project; (b) the Adolescent Coping Inventory (ACI) which was adapted from Patterson and McCubbin's (1987) Adolescent Coping Orientation for Problem Experiences (A-COPE); (c) the 12-item version of the General Health Questionnaire (GHQ-12) which has been widely used in research relating to mental health (e.g., Banks & Jackson,

1982; Banks, 1983; Jackson, Stafford, Banks, & Warr, 1983; Siddique & D'Arcy, 1984); and (d) a Biographical Information (BI) checklist which was used during data analysis to identify significant subgroups of Ss (see Appendix 1).

The development and adaptation of the survey instruments took account of the following factors:

(a) the need for tasks that could be completed within one class period (approximately 30-35 minutes);

(b) the need for tasks that could easily be understood and completed even by younger adolescents and by less academically able students;

(c) the need for tasks that Ss would find interesting and therefore worthy of completion; and

(d) the need for tasks that would provide useful information without appearing to intrude excessively into Ss' personal lives.

In the interests of brevity and simplicity, it was decided to use instruments which required a minimum of writing and which as far as possible maintained a constant answering format. Consequently on both of the larger instruments - the AAPI and the ACI - Ss were required to respond to almost every item by circling a number on a scale from 1 to 7. The only exceptions were items 69 to 71 of the AAPI which asked Ss to write brief statements about their most difficult problem. On the GHQ-12, it was considered inappropriate to maintain the 7-point scale since tampering with the format of this standardized and frequently used scale would have jeopardized comparisons with previous GHQ research. However, the multiple-choice format of the GHQ-12 using four alternatives for each item was not excessively dissimilar from the approach required for the two larger instruments and was a method of answering which is familiar to most students.

A basic assumption underlying the collection of data was that all Ss would be able to understand the questionnaires. The youngest Ss were aged 12, and the

readability level of the questionnaires, using Fry's and Mugford's readability formulae (Harrison, 1980), was estimated at below 11 years of age. To further ensure understanding, the researcher, along with the teachers who assisted him at Independent Ladies' College, was always very careful to encourage questions of clarification from Ss. He also made a point before commencing data collection of giving Ss an overview of the research booklet and explaining the methods for completion.

As a consequence of these procedures, Ss appeared to have few difficulties in understanding the questionnaires. The most frequent requests for clarification came from the Year 8 Ss and related to questions 7, 22, 29, 36, 38, 53, 56, 59, 60, and 69 on the AAPI, questions 18 and 21 on the ACI, and question 3 on the BI (see Table 2). Such requests were always answered directly and publicly so that the extra information was available to the whole group.

TABLE 2

Ss' Most Common Requests for Clarification When Completing the Survey Instruments

ITEM	TYPICAL QUESTIONS FROM Ss	PARAPHRASES OF RESEARCHER'S EXPLANATIONS
Getting along with my peers (AAPI, Item 7)	What are "peers"?	Peers include all the people of your own age that you mix with every day. For example, all the students in this room are your peers.
Teachers who seem unable to explain just what their classes are intended to achieve (AAPI, Item 22)	What does question 22 mean?	Teachers who don't seem to be able to explain clearly what the lesson is about and why you need to study that particular topic.
Developing more quickly than my friends (AAPI, Item 29)	What does question 29 mean?	Being ahead of your friends in your physical, mental, social, or emotional development.
Foreign language classes where it is difficult to understand what the teacher is saying (AAPI, Item 36)	What if I don't do a foreign language?	If you don't do a foreign language, then this is probably not a problem for you, and you will probably circle the number "1".

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TABLE 2 CONTINUED

Ss' Most Common Requests for Clarification
When Completing the Survey Instruments

ITEMS	TYPICAL QUESTIONS FROM Ss	PARAPHRASES OF RESEARCHER'S EXPLANATIONS
Waiting for final results (e.g, Junior Certificate, T.E. Score) (AAPI, Item 38)	Does question 38 apply to me?	Yes, even though you're not in Year 10 or Year 12, indicate how you feel about waiting for your results at the end of semester.
Abuse of such substances as drugs, alcohol, and cigarettes (AAPI, Item 53)	What does question 53 mean?	Using these substances when you are not supposed to.
Too much competition for T.E. scores (AAPI, Item 56)	Do I have to answer question 56?	Yes, even though tertiary entrance is still four years away for Year 8 students, it is still possible that some Year 8 students are worried about it. These students should probably circle one of the larger numbers. Students who are less worried will circle a smaller number.
Feeling negatively about myself (AAPI, Item 59)	What does question 59 mean?	Not believing in your own ability to do things, often feeling that you are not good enough or that others are much better than you.
Class tests at prearranged times during the semester (AAPI, Item 60)	What does question 60 mean?	Tests that you were told about well ahead of time.
What is the most difficult problem you have faced during the past year? (AAPI, Item 69)	I haven't had any big problems.	Try to think of a problem. Most students are able to write something here, but if you can't, that's okay.
Say nice things ('warm fuzzies') to others (ACI, Item 18)	What are "warm fuzzies"?	That's an American expression for saying something nice about someone. The opposite of a "warm fuzzy" is a "cold prickly".
Talk to a minister, priest, or rabbi (ACI, Item 21)	What's a rabbi?	He is like a minister or priest in the Jewish religion.
Date of birth (BI, Item 3)	If I give you my date of birth, you can find out who I am.	This won't happen for three reasons: 1. I give you my word that it won't. 2. The school does not allow outsiders to look at its student records cards. 3. If you don't believe me and really want to protect yourself, you may write your age rather than your date of birth.

With regard to the requirement that data provision be interesting, it was hoped that Ss would be intrinsically interested in working through an exercise which helped them to order their thoughts about the relative intensities of their various difficulties and some of the possible ways of coping with them. The simplicity of the data collection procedures, the minimization of the amount of writing required, and the temporary departure from normal school routine were also expected to act as motivational factors.

Prior to data collection, the researcher felt some misgivings that perhaps the large number of items (149 spread across four questionnaires) and the consistency of format might have a counter-productive affect on Ss. However, this generally turned out not to be the case. Presented with a task which they knew they could accomplish (there were no right or wrong answers) and encouraged by the assurance that their answers would be treated confidentially, the vast majority of Ss took the activity very seriously. There were occasional Ss whose nonverbal behaviours suggested boredom, but the majority seemed to enjoy the exercise, and many actually stated that this had been the case.

The desire not to pry unnecessarily into the personal lives of Ss led the researcher to avoid some obvious sources of relevant information. No attempt was made to view school record cards even though they would have been helpful in establishing Ss' achievement and ability levels. Also, the commitment to preserving the anonymity of the participants meant that Ss' names were not recorded on the questionnaires, and it was therefore impossible to conduct follow-up interviews either with Ss whose responses were of particular interest or with their parents, peers, or teachers. Sensitivity about not probing too deeply into Ss' private affairs also meant that some of the questions in the BI (e.g., Item 5, dealing with ethnicity, and Item 9 dealing

with family circumstances) were more vaguely worded and therefore provided less precise information than might otherwise have been the case.

AUSTRALIAN ADOLESCENT PROBLEMS INVENTORY (AAPI):

The AAPI was used mainly to address the questions, "What are the major causes of stress among Australian adolescents?" (RQ2) and, in conjunction with information obtained from the BI, "Are there identifiable groups of Australian adolescents who are more stressed than others?" (RQ3) It did not deal directly with the questions, "To what extent is stress an important issue in adolescent development in Australia?" (RQ1) and "What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?" (RQ4). The main input into RQ1 was through GHQ-12, while RQ4 was approached through the ACI. However, through a deliberately structured comparison with overseas findings, and through the inclusion of items 70 and 71 which deal with adolescents' coping strategies, the AAPI, in addition to its central roles, also provided background information which was pertinent to the discussion of RQ1 and RQ4.

The AAPI consists of 35 items based on Kohn & Frazer's (1986) Academic Stress Scale and 36 items developed from Strutynski's (1985) lists of the most frequently named problems of Queensland secondary students. The Academic Stress Scale had been used by Kohn and Frazer to rank order current school-related problems among tertiary students in the United States. However, the nature of its content (see Table 3: pp.78-79) suggested that it had the potential, particularly when used in conjunction with a series of items whose content was derived directly from Australian sources, to provide important information about some of the more pressing problems, or stresses, of Australian secondary students.

A second reason for incorporating the content of the Academic Stress Scale into the AAPI was that this created an opportunity to compare the stress rankings of Kohn and Frazer's American Ss with the problem rankings of the Ss in the present study. It was anticipated that a significant correlation between the responses of the Australian and the American Ss on the corresponding items in the two scales would lend weight to the arguments that American findings about adolescent stress are relevant to a consideration of this same phenomenon in an Australian context, and that because stress among adolescents is regarded as an important issue in the United States (Elkind, 1984; Glasser, 1986; Girdano & Everly, 1986), it should also be regarded as an important issue in Australia.

Although each of Kohn and Frazer's 35 items is represented in the AAPI, it was necessary to modify some items in order to make them more meaningful to Australian secondary students. A detailed comparison of the related items of the AAPI and the Academic Stress Scale is presented in Table 3. The correspondence between items is readily apparent, except in the case of Item 42 where a clerical error resulted in a reversal of the original meaning. Since the resultant item was still pertinent to the identification of adolescent problems, it was retained for all data analyses except the comparisons of the AAPI and the Academic Stress Scale which were consequently based on 34 items rather than 35.

The remaining items of the AAPI had their origins in Strutynski's (1985) summaries of the responses of Queensland secondary students to the questions, "What are the three most difficult problems which teenagers today have to overcome?" and "What do you think are ... the problems of school?" From each of the broadly-worded problems appearing in Strutynski's lists, more specific items were created for the AAPI. For example, Strutynski's five most commonly

TABLE 3

Comparisons of Corresponding Items on the Academic Stress Scale and the Australian Adolescent Problems Inventory (AAPI)

Items are listed in the order in which they appear on the AAPI.

ACADEMIC STRESS SCALE	CORRESPONDING ITEMS ON AAPI
Irrelevant classes toward major	2. Subjects which are not relevant to my needs and interests
Studying for examinations	5. Studying for examinations
Incorrect answers in class	6. Giving a wrong answer in class
Late dismissals of class	10. Lessons where teachers keep on going after the bell
Pop quizzes	12. Surprise tests
Crowded classes	13. Crowded classrooms
Note-taking in class	14. Note-taking in class
Hot classrooms	16. Hot classrooms
Noisy classrooms	17. Noisy classrooms
Evaluating classmates' work	18. Classes where students are required to mark one another's work
Excessive homework	19. Too much homework
Poor classroom lighting	21. Poor classroom lighting
Unclear course objectives	22. Teachers who seem unable to explain just what their classes are intended to achieve
Unclear assignments	23. Badly worded assignment topics
Examinations	27. Examinations
Attending wrong class	28. Going to the wrong class
Unprepared to respond to questions	30. Being asked to answer a question in class when I don't know the answer
Forgetting pencil/pen	31. Forgetting materials needed for a lesson (e.g., notebook, pen, pencils)
Buying textbooks	33. Buying textbooks

Continued next page ....

TABLE 3 CONTINUED

Comparisons of Corresponding Items on the Academic Stress Scale and the Australian Adolescent Problems Inventory (AAPI)

ACADEMIC STRESS SCALE	CORRESPONDING ITEMS ON AAPI
Missing class	34. Missing classes
Learning skills	35. Learning new skills
Nonnative language lectures	36. Foreign language classes where it is hard to understand what the teacher is saying
Final grades	38. Waiting for final results (e.g., Junior Certificate, T.E. Score)
Boring classes	41. Boring lessons
Classes without open discussion	42. Classes where everyone is expected to participate in class discussion
Cold classrooms	43. Cold classrooms
Arriving late for class	45. Arriving late for class
Fast-paced lectures	47. Teachers who cover the material so quickly that I have trouble keeping up
Class speaking	48. Having to give a talk in front of the whole class
Forgotten assignments	50. Forgetting to do an assignment
Term papers	58. Writing assignments
Announced quizzes	60. Class tests at prearranged times during the semester
Waiting for graded tests	62. Waiting for exam results
Incomplete assignments	67. Not completing an assignment by the due date
Studied wrong material	68. Learning the wrong material for a test

listed problems in the context of the school are: (a) "Teachers, student-teacher relationships"; (b) "Workload, homework"; (c) "Peers/peer relationships"; (d) "Pressure, competitiveness, expectations placed on students"; and (e) "Assessment, T.E. system". These items are represented in the AAPI not only by some of the items derived from the Academic Stress Scale but also by such items as: (a) "Getting along with my teachers" and "Being treated unfairly by one or more of my teachers"; (b) "Too much assessment in school" and "Too much homework"; (c) "Being picked on by other students" and "Developing more slowly than my friends"; (d) "Too much pressure from my teachers to do well in school" and "Too much competition for T.E. scores; and (e) "Worrying about whether I will get into the tertiary course of my choice".

Strutynski's most frequently mentioned problems of adolescents in the context of life outside the school are: (a) "Adolescent peer-group relationships/making decisions independently of others"; (b) "Unemployment/finding desired employment"; (c) "Relationships with parents and family"; and (d) "Drugs, alcohol, cigarettes". These categories led to such items in the AAPI as: (a) "Getting along with my peers" and "Relationships with the opposite sex"; (b) "Worrying about whether I will be able to get a job when I leave school" and "Trying to decide what I really want to do with my life"; (c) "Getting along with my parents" and "Getting along with my brothers and sisters"; and (d) "Abuse of such substances as drugs, alcohol, and cigarettes".

Every one of the 31 problems listed by Strutynski has at least one corresponding item in the AAPI. Considering that Strutynski rigorously sampled 2,336 adolescents across the whole of Queensland, it seems reasonable to argue that the AAPI gives a quite comprehensive coverage of the sorts of problems likely to be mentioned by Queensland adolescents not only in the school context but also in the broader contexts of family, peer, and community relationships.

As Kohn and Frazer's and Strutynski's studies both had a strong influence on the content of the AAPI, so they also influenced the format. Kohn and Frazer's influence is seen in Items 1 to 68 which seek Ss' responses to specific listings of possible problems. However, where Kohn and Frazer required Ss to rank each stressor on a scale from 1 to 1000 (using a predetermined rating of 500 for "Examinations" as a common reference point), the AAPI uses a simpler, more manageable, more commonly used rating continuum of "1" to "7" in which "1" indicates "No problem at all" and "7" indicates "A very big problem".

Strutynski's influence is seen in items 69 and 70 which ask open-ended questions about Ss' biggest problems during the past year and about how they coped with them. Although the open-ended approach has some obvious advantages (e.g., allowing Ss free reign in making their responses, and simplifying the construction of instruments), it was decided that the AAPI should utilize a more directive approach in which Ss mainly responded to a predetermined set of stimuli. This method was preferred: (a) because it seemed likely to elicit a greater range of responses from each participant than would have been the case under Strutynski's method; and (b) because it overcame many of the difficulties which are generally associated with interpreting, coding and categorizing Ss' responses to open-ended questions.

ADOLESCENT COPING INVENTORY (ACI):

The information obtained from the ACI was relevant to a discussion of the fourth research question, "What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?" The ACI could not provide a direct answer to this question, but along with questions 70 and 71 from the AAPI, it could

present information about the relative frequencies with which adolescents use a variety of coping strategies. The Ss' responses could then be analysed in accordance with the various theoretical stances expressed in the literature on coping with stress.

The ACI consists of 54 strategies (e.g., "Going along with my parents' requests and rules", "Reading something to take my mind off the problem") which adolescents might use in attempting to cope with stress. On each item Ss are asked to indicate with a number ranging from "1" (meaning "I never behave in this way") to "7" (meaning "I always behave in this way") the extent to which they use each of the coping strategies listed. The wording of the items corresponds exactly with the wording used by Patterson & McCubbin (1987) in the A-COPE (Adolescent Coping Orientation for Problem Experiences). However, the ACI employs a slightly different answering format (the "1 to 7" scale rather than a 5-point Likert scale) in order to create uniformity between the two major instruments used in the present study.

No direct empirical attempt was planned in the study reported in this paper to address the question, "What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?" Rather the intention was to conduct an essentially theoretical discussion of this issue based on the coping literature, the educational scene in Queensland, and Ss' responses to the first three research questions. However, in planning that discussion, it was felt that information about the sorts of coping strategies that adolescents generally use, whether they be effective or ineffective, would be useful. The purpose of the ACI, like questions 70 and 71 of the AAPI, was to provide this kind of information.

GENERAL HEALTH QUESTIONNAIRE (GHQ-12):

The GHQ is described by Banks (1983) as "a widely used instrument to assist in the detection and estimation of non-psychotic psychiatric illnesses" (p.349). It comes in a variety of versions (e.g., 60-, 30-, 28-, 20-, and 12-items) which have all undergone successful validation studies (Goldberg, 1972, 1978; Goldberg & Hillier, 1979). Banks' work with the GHQ-12, particularly with 17-year-olds in non-clinical settings (e.g., Banks, 1983; Banks et al., 1980), has demonstrated that this version has high internal consistency and a unidimensional structure. Each of its twelve items uses a multiple-choice format to seek information about such stress-related behaviours as losing sleep over worry, wondering whether one is playing a useful part in things, feeling constantly under strain, and feeling unhappy and depressed.

In the present study, the GHQ-12 was used to address the questions, "To what extent is stress an important issue in adolescent development in Australia?" and "Are there identifiable groups of Australian adolescents who are more stressed than others?" It was chosen as a stress measure not only because of its proven usefulness in this field and its ease and speed of administration, but also because its extensive use in overseas research (Banks, et al., 1980; Banks, 1983; Jackson, Stafford, Banks, & Warr, 1983) provided data against which the findings of the present study could be compared. It was argued that if comparable levels of personal psychological discomfort, or stress, could be shown to exist between groups of Ss in the present study and similar groups in overseas studies, then it would be reasonable to assert that stress among Australian adolescents is just as important an issue as it is among adolescents overseas.

BIOGRAPHICAL INFORMATION CHECKLIST (BI):

The main purpose of the BI was to identify groups for use in discussing the question, "Are there identifiable groups of Australian adolescents who are more stressed than others?" Major attention was to be directed towards comparisons of schools, year levels, and sexes (Items 1, 2, and 4), but there was also interest in perceived ability levels (Item 10), aspirations (Items 11 and 12), age (Item 3), cultural background (Item 5), socio-economic status (Item 6), location of home (Item 7), term address (Item 8), and family background (Item 9). The underlying question for all of these groups was whether there would be significant differences in levels of stress (GHQ-12), types of problems experienced (AAPI), and strategies used to cope with stress (ACI).

D. PROCEDURE:

The AAPI, ACI, GHQ-12, and BI were presented to Ss in a single booklet which was prefaced by a letter of explanation about the project (see Appendix 1) and which was generally administered by the researcher to single class groups. Exceptions to this procedure occurred at Independent Ladies' College where the Ss' regular teachers administered the questionnaires, and at Independent Boys' College where approximately 25 additional Ss were approached individually after the bulk of the data had been collected in order to balance the numbers between that school and its "sister" school (Independent Ladies' College). As indicated earlier, the attempt to balance numbers between schools was later abandoned as being too difficult as well as unnecessary. Equal numbers were not required for the statistical analyses that were planned, and the conversion of frequencies to percentages would facilitate the making of comparisons by readers of the final report.

Data collection occurred between 27th April and 8th August, 1988 on dates which the schools nominated as being most convenient. This resulted in Independent Boys' College and Catholic Boys' College being surveyed immediately following their exams, Catholic Ladies' College immediately prior to exams, and all other schools during mid-semester, well away from the examination period. Each school was initially asked to provide approximately 30 Ss from each of Years 8, 9, 10, 11, and 12. However, following exploratory analyses of data collected at the first two schools surveyed (Independant Ladies' College and Catholic Ladies' College), it became apparent that larger numbers would be needed in some instances to obtain workable subgroups. As a result, all subsequent schools cooperated in increasing the size of their samples (see Table 1, p.70). *

Very few problems were experienced in administering the questionnaires. The specific procedures followed by both the researcher and his assistants are reproduced in Appendix 2. The vast majority of Ss seemed to have few difficulties in understanding what they were required to do and were able to complete their responses in the single class period which had been allocated for the task. The only major difficulty occurred with some of the Year 8 and 9 Ss at Independent Boys' College whose classes on that particular day were shortened to approximately 25 minutes to compensate for an extended school assembly. The reseacher's solutions to this time problem included encouraging Ss to work quickly by indicating at intervals of seven to eight minutes the stages they should have reached in their answering, and suggesting

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* At Independent Ladies' College the whole school participated, yielding approximately 750 completed questionnaires. However, in order to confine the present study to manageable proportions, a random sample of 300 Ss (60 from each year level) was taken. A later study will revolve around an in-depth analysis of all of the responses from this one school.

to slower Ss that they postpone answering the open-ended questions (Items 69 and 70 of the AAPI) until they had completed all other sections of the booklet. Despite these precautions, 15 students from Years 8 and 9 at Independent Boys' College failed to complete the questionnaires and were excluded from the final sample.

CHAPTER 4: DATA ANALYSIS

Data analyses were conducted on the Hewlett-Packard (HP3000/44) mainframe computer at Brisbane College of Advanced Education using SPSS-X (Statistical Package for the Social Sciences-X) (SPSS Inc., 1986). All analyses were selected from the nonparametric section of SPSS-X. This was necessitated by the fact that the data were ordinal in nature rather than interval (Siegel, 1956; Daniel, 1978).

The availability of the HP3000 made it possible to conduct very extensive analyses of the data. For example, rather than being limited to a "macro" analysis of Ss' overall scores on the AAPI and on the ACI, or at best Ss' scores on major sub-categories of these instruments, it was possible to conduct much more detailed item-by-item analyses, repeating such analyses over and over for a wide range of sub-groups. As a result, although the major focus in seeking to answer the four research questions was on the overall sample of 1664 Ss and on comparisons of schools, grades, sexes, and ability levels, it was also possible to conduct exploratory analyses, which will be reproted in later papers, on such dimensions as age, ethnicity, family status, home address, term address, family type, birth order, family size, and academic aspirations.

However, not all of these planned analyses were implemented. Following preliminary analyses of the responses of the 300 Ss from Independent Ladies' College, analyses based on age were abandoned because their findings essentially duplicated the results of analyses based on grade. A similar decision was also made to omit analyses based on family status, this time because of difficulties in classifying Ss on that dimension.

In order to address the first research question, "**To what extent is stress an important issue in adolescent development in Australia?**" use was made of Ss' responses: (a) to the GHQ-12; and (b) to the 34 items of the AAPI which were derived from Kohn and Frazer's Academic Stress Scale (see Table 3). In relation to the GHQ-12, it was argued that if the scores of such groups as those listed in the previous paragraph were consistently equal to or higher than the British scores obtained by such researchers as Banks, Clegg, Jackson, Kemp, Stafford, and Wall (1980) and Banks and Jackson (1982), then it would be reasonable to suggest that stress is at least as big an issue for Australian adolescents as it is among adolescents in England.

A similar stance was adopted with regard to the Academic Stress Scale. Spearman's rank order correlation coefficients were calculated to compare the school-related problems of each of the sub-groups identified in the present study with the problems of Kohn and Frazer's (1986) Ss. Frequently repeated findings of significant correlations would provide support for the view that Ss in both Australia and the United States perceive themselves to be afflicted to similar degrees by similar types of school-related problems or stressors.

In order to address the second research question, "**What are the major causes of stress among Australian adolescents?**" mean ratings on each of the first 68 items of the AAPI were calculated: (a) for all Ss; and (b) for all appropriate sub-groups as discussed at the beginning of this chapter. Problems for each group were then listed in order of importance, with the problems scoring the biggest

ratings being regarded as the Ss' major sources of stress. The degree of similarity between each pair of sub-groups (e.g., Year 8 and Year 9 Ss within a single school; Year 8 and Year 10 Ss within a single school, and so on) was tested using Spearman's rank order correlation coefficient. Relevant qualitative data, which will form the basis for a subsequent report, were obtained through Ss' open-ended responses to Items 69 and 70: "What is the most difficult problem you have faced during the past year?" and "Briefly describe what you did to try to cope with your most difficult problem during the past year."

In order to address the third research question, **"Are there identifiable groups of Australian adolescents who are more stressed than others?"** use was made of: (a) mean ratings of all appropriate sub-groups; (b) frequency counts of the numbers of Ss in each sub-group selecting each of the ratings from "1" to "7"; and (c) a series of two-way chi square analyses using as one dimension frequencies of ratings and as the other dimension selected sub-groups of the various groups listed in paragraph 2. This procedure is illustrated in the following comparison of year levels at Independent Ladies' College on item 56 of the AAPI, "Too much competition for T.E. scores". First a 7 x 5 contingency table (Table 4) was formed to compare frequencies of ratings on the 7-point scale for each of year levels 8 to 12:

TABLE 4

Comparison of Distribution of Ratings by Year Levels at Independent Ladies' College on the Item, 'Too much competition for T.E. scores'

Ratings:	1	2	3	4	5	6	7
Year 8	26	8	3	9	5	1	8
Year 9	11	3	5	10	9	11	10
Year 10	2	2	4	6	13	8	25
Year 11	6	3	4	7	2	8	30
Year 12	0	2	3	6	6	14	29

Notes: 1. Ratings range from "1" meaning "No problem at all" to "7" meaning "A very big problem".
2. Numbers in the body of the table indicate the number of Ss choosing a particular rating.

Then a chi square analysis was applied to the data contained in Table 4, producing, in this particular instant, a highly significant finding ($\chi^2 = 100.381$; $p = .0000$). A subsequent inspection of Table 4 suggested the following cautious interpretations: Ss in the upper secondary grades at Independent Ladies' College are more likely than Ss in the lower grades to identify "Too much competition for T.E. scores" as a very large problem, while Ss in the lower grades are much more likely than Ss in the higher grades to identify this same competitive situation as no problem at all. A freer but nevertheless appropriate interpretation seems to be that "Too much competition for T.E. scores" is increasingly identified as a problem by the Ss of Independent Ladies College as they progress through the secondary grades.

In order to address the fourth research question, **"What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?"** attention was shifted to the ACI. The intention behind the analyses applied to the ACI was not to answer the fourth research question directly but to provide information which would be pertinent to the subsequent theoretical discussions of this issue (see Chapter 6). The analyses performed on the ACI generally parallelled the analyses applied to the AAPI. Thus for each appropriate sub-group, mean ratings of items were calculated, and coping strategies were ordered according to the frequency of their use. To test similarities in sub-groups' responses to the ACI, use was made of Spearman's rank order correlation coefficient. Finally, two-way chi square analyses were used to compare frequency counts of ratings among related subgroups (e.g., Grades 8 to 12 at Independent Ladies' College, Grades 8 to 12 for all schools combined, and so on).

In addition to the analyses mentioned so far, a number of other exploratory analyses were performed, including: (a) Kruskal-Wallis comparisons of the eleven general problem categories (pressure/workload, future, feeling vulnerable, personal organization, motivation, school climate, working conditions, teachers' communication skills, family relationships, peer relationships, and maturation) which resulted from a non-statistical analysis of the content of the AAPI; (b) Kruskal-Wallis comparisons of the twelve categories (ventilating feelings, seeking diversions, developing self-reliance, developing social support, solving family problems, avoiding problems, seeking spiritual support, investing in close friends, seeking professional support, engaging in demanding activity, being humorous,

and relaxing) which Patterson and McCubbin (1987) identify as subsuming the 54 items of the ACI; and (c) chi square comparisons of the GHQ-12 scores of "high-problem" Ss (highest 25 per cent of total scores on the AAPI) with GHQ-12 scores of "low-problem" Ss (lowest 25 per cent of total scores on the AAPI). These findings are not used in the present paper but will provide the basis for future papers dealing with school-related stress among adolescents in South-East Queensland. The full list of data analyses undertaken is presented in Appendix 3.

CHAPTER 5: RESULTS

In the interests of placing realistic limits on the length of the present report, the findings contained in this chapter constitute but a small sample of the total data collected during the course of the project. Selection of data is based on their relevance to the four research questions (see p.64) and the extent to which they are clearly representative of the data which have been omitted. Major emphasis is on findings across grades, sexes, and ability levels: (a) for the total sample; and (b) for individual schools. Findings relating to ethnicity, home address, term address, family type, birth order, family size, and academic aspirations, along with comparisons of school "systems" (public versus independent versus Catholic) will be presented in later papers.

Data relating to the question, **"To what extent is stress an important issue in adolescent development in Australia?"** include: (a) GHQ-12 scores; and (b) correlational analyses of responses relating to the Academic Stress Scale by groups of Ss in the present study and the Ss in Kohn and Frazer's (1986) American study.

Summaries of GHQ-12 scores for various groupings of the Australian Ss who participated in the present study appear in Table 5. In considering the question of whether adolescent stress is a worthwhile area of empirical endeavour in Australia, Table 5 needs to be compared with Table 6 which summarizes the British findings of Banks, Clegg, Kemp, Stafford, and Wall (1980) and Banks and Jackson (1982). It is noteworthy that every mean listed in Table 5 for the Australian Ss is higher (suggesting greater stress) than the means obtained by Banks and his associates in the United Kingdom among adolescent males and females, three groups of adolescents from different ethnic backgrounds, adolescents with varying levels of academic attainment, and adolescents who were working either in full-time employment, further education, or Youth Opportunity Programs.

The only British Ss in the Banks studies who regularly had higher mean GHQ-12 scores than the Australian Ss in the present study were the unemployed, who were found to be significantly more stressed than the various other groups mentioned in the previous paragraph. Considering that with few exceptions (e.g., Ss who rate themselves as academically excellent), the Australian means are generally closer in size to the means for Banks et al's (1980; 1982) unemployed 16-year-olds than they are to the means of the other groups listed in Table 6, it seems reasonable to express concern about stress levels among Australian secondary students. Such concern also extends to the observations (see Table 5) that GHQ-12 scores in the present study tend to increase from Years 8 through 12 and that GHQ-12 scores are higher among less academically competent Ss than among successful Ss.

Another important feature of the Australian data is that there is a full range of scores, from zero (which means that a S has indicated on every item an improvement in his/her state of psychological well-being) to 36 (which means that a S has indicated on every item a substantial decline in his/her psychological state). While many individual Ss (e.g., 25.7 percent of the total sample) scored less than the 8.8 which is estimated to be the combined mean for Banks et al's less stressed groups, there is also a very substantial proportion (e.g., 39.7 percent of the total sample) whose scores were higher than the estimated combined mean of 13.9 for Banks et al's unemployed groups. These sorts of findings along with the data discussed in the preceding paragraphs, suggest that in the same way that adolescent stress has been considered worthy of attention by overseas researchers, so it should also be regarded as worthy of investigation in the Australian context.

TABLE 5

GHQ-12 Results for Schools, Grades, Academic Competence, and Sex

	N	MEAN	RANGE	PERCENTAGE OF SCORES BELOW 8.8	ABOVE 13.9
A. SCHOOLS:					
Warrego SHS	222	12.045	2-29	29.1	32.7
Maranoa SHS	245	13.210	1-34	22.6	39.1
Diamantina SHS	227	12.681	3-33	27.9	38.1
Indep. Ladies' College	300	13.271	0-34	26.4	43.1
Indep. Boys' College	300	13.027	0-34	26.0	39.0
Cath. Ladies' College	151	15.193	1-36	15.3	50.7
Cath. Boys' College	219	12.315	2-35	30.1	35.6
All Schools	1664	13.020	0-36	25.7	39.7
B. GRADES (All Schools):					
Year 8	338	11.823	0-35	31.2	30.0
Year 9	313	12.620	0-32	29.4	35.8
Year 10	341	12.885	0-34	27.4	39.4
Year 11	358	13.639	1-36	22.7	43.4
Year 12	314	14.143	2-34	18.5	48.4
C. ACADEMIC COMPETENCE (All Schools):					
Excellent	83	11.222	0-28	40.7	30.9
Very Good	300	11.729	0-34	31.4	31.8
Good	526	12.352	0-34	28.6	30.5
Average	606	13.612	2-34	21.2	43.1
Below Average	109	15.936	1-34	17.4	57.8
Way Below Average	24	22.000	6-36	8.3	83.3
D. SEX:					
Males	825	12.416	0-35	28.6	35.4
Females	839	13.619	0-36	23.1	43.4

TABLE 6

Mean GHQ-12 Scores for British Adolescents (based on Banks & Jackson, 1982; Banks, et al., 1980)

Banks & Jackson (1982)		Banks, et al. (1980)	
Males	8.41		
Females	9.57		
White	8.69		
West Indian	9.49		
Asian	10.57		
No academic quals.	9.30		
CSE	8.88		
'O' level	8.52		
		Employed males	7.86
Employed	8.18	Employed females	9.71
Further education	9.29		
Youth Opport. Programs	8.60		
Unemployed	13.89	Unemployed males	13.84
		Unemployed females	14.25

Correlational data, based on Spearman's rank order calculations are presented in Table 7. The findings pertain to the comparisons between the various groups in the present study and the Ss in Kohn and Frazer's American study on the 34 items of the AAPI which were derived from Kohn and Frazer's Academic Stress Scale. A predominance of significant positive correlations (69 of the 100 calculations are significant, usually at far beyond the .05 level) suggests that there is generally a high degree of similarity between the sorts of problems confronting American students and those confronting many of the groups of Australian students identified in the present study. It is interesting that Kohn and Frazer's Ss were College students, and that Section A of Table 7 suggests that as the Ss in the present study progress through the secondary grades the correlation of their responses with those of Kohn and Frazer's students tends to increase. This trend even seems to occur at Warrego S.H.S. where the only correlation coefficient which reaches statistical significance is at the Year 12 level.

Similar trends - perhaps not quite as pronounced - are apparent on the academic competence dimension (Section B of Table 7) where correlation coefficients tend to increase as Ss' perceived ability levels decrease. Perhaps when it came to identifying academic stressors, the more competent Ss in the present study were less discriminating than Ss who felt less academically competent because academic stressors represent a less serious problem for students of greater academic competence than for students of lower ability.

As in the comparison of year levels, the results of Ss at Warrego S.H.S. tend not to achieve the same levels of significance as the results of Ss from other schools. However, the overall impression to be gained from Table 7 is that there is generally a significant relationship between the responses of the Ss in the present study and those of the Ss in Kohn and Frazer's study. Once again, on the basis of comparability of results between the present study and associated overseas research using stress-related measures, the implication is that the investigation of stress among Australian adolescents is an issue of significance.

Data relating to the questions, **"What are the major causes of stress among Australian adolescents?"** and **"Are there identifiable groups of Australian adolescents who are more stressed than others?"** include, for each of the sub-groups identified through the BI, mean ratings on each item of the AAPI, consequent listings of responses to the AAPI in order of importance, chi square comparisons of the frequency distributions of problem ratings among related groups of Ss, and correlations between selected groups in their overall responses to the AAPI. Other relevant analyses which will be considered in a later paper include comparisons of groups' mean GHQ-12 scores, as well as their total problems scores as measured by the AAPI.

TABLE 7

Spearman's Rank Order Correlation Coefficients for Comparisons between Kohn & Fraser's (1986) Academic Stress Scale and the 34 corresponding Items in the AAPI

		ALL SCHLS	WARR. SHS	MARAN. SHS	DIAM. SHS	INDEP L.C.	INDEP B.C.	CATH L.C.	CATH B.C.
A. YEAR LEVELS:									
Correlations between Kohn & Fraser's Ss and									
Year 8 Ss	r =	.1766	.1156	.1504	.0099	.3738	.2053	.2426	.1978
	p =	.159	.258	.198	.478	.015	.122	.083	.131
Year 9 Ss	r =	.3885	.1210	.3134	.2640	.6361	.3172	.4584	.1411
	p =	.012	.248	.036	.066	.000	.034	.003	.213
Year 10 Ss	r =	.4948	.1637	.3386	.4208	.5689	.5290	.7229	.5034
	p =	.001	.177	.025	.007	.000	.001	.000	.001
Year 11 Ss	r =	.5141	.2329	.4035	.5461	.5098	.4688	.6795	.6009
	p =	.001	.092	.009	.000	.001	.003	.000	.000
Year 12 Ss	r =	.5833	.3342	.3819	.5743	.6750	.5632	.5902	.5609
	p =	.000	.027	.013	.000	.000	.000	.000	.000
B. ACADEMIC COMPETENCE:									
Correlations between Kohn & Fraser's Ss and:									
Excell Ss	r =	.1100	-.1404	.2144	-.1097	.1844	.0302	.4223	.0220
	p =	.268	.214	.112	.268	.148	.433	.006	.451
V Good Ss	r =	.2482	.0536	.1478	.2266	.4884	.3583	.3497	.1627
	p =	.078	.382	.202	.099	.002	.021	.021	.179
Good Ss	r =	.4746	-.2132	.2079	.4677	.6235	.4937	.6734	.4315
	p =	.002	.113	.119	.003	.000	.002	.000	.005
Average Ss	r =	.5448	.3359	.5008	.4176	.6539	.4966	.6044	.5793
	p =	.000	.026	.001	.007	.000	.001	.000	.000
Bel Av Ss	r =	.6576	.2659	.5982	.4089	.6910	.6506	.6076	.4321
	p =	.000	.064	.000	.008	.000	.000	.000	.005
V Bel Av Ss	r =	.5844	.2450	.0984	.4370	.3096	.4868	.4469	.4898
	p =	.000	.081	.290	.005	.037	.002	.004	.002
C. SEX:									
Correlations between Kohn & Fraser's Ss and:									
Males	r =	.4268	.2410	.2301	.4274	---	.5031	---	.4304
	p =	.006	.085	.095	.006		.001		.006
Females	r =	.4863	.1587	.3745	.4006	.5271	---	.6173	---
	p =	.002	.185	.015	.009	.001		.000	

r = Spearman's rank order correlation coefficient
p = probability
Significant findings (p = .05) are presented in darker type.

Mean ratings calculated for each item in the AAPI for all 1664 Ss indicate that the twelve biggest problems identified by the Ss in the present study are:

1. Boring lessons (4.520) *
2. No say for students in how the school is run (4.425)
3. Studying for examinations (4.324)
4. Worrying about whether I will be able to get a job when I leave school (4.224)
5. Teachers who cover the material so quickly that I have trouble keeping up (4.208)
6. Students who disrupt lessons, making it difficult for other students to learn (4.198)
7. Never having enough money (4.181)
8. Examinations (4.180)
9. Being expected to act like an adult without being given adult privileges (4.152)
10. Badly worded assignment topics (4.129)
11. Too much Competition for T.E. scores (4.121)
12. Worrying about whether I will get into the tertiary course of my choice (4.067)

While such a gross analysis tends to hide interesting differences among groups, it nevertheless reflects quite strongly the overall responses in each of the participating schools. For example, inspection of Table 8 indicates: (a) that ten of the above items appear among the top twelve problems listed by the Ss from Independent Ladies' College; (b) that nine appear in the top twelve of the Ss from Independent Boys' College and Diamantina S.H.S.; (c) that eight are in the top twelve for Ss from Catholic Boys' College; and (d) that seven are top-twelve items for Ss from Catholic Ladies' College, Warrego S.H.S., and Maranoa S.H.S..

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* Numbers in brackets indicate mean ratings on a 7-point scale. The bigger the score the bigger the problem.

TABLE 8

Comparisons Across Schools of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER SCHOOL
A. WARREGO SHS:			
1. Boring lessons	*	4.71	
2. Cold classrooms		4.44	
3. Never having enough money	*	4.44	
4. Students who disrupt lessons	*	4.39	
5. No say for students in how school is run	*	4.37	
6. Hot classrooms		4.33	
7. Noisy classrooms		4.25	
8. Badly worded assignments topics	*	4.15	
9. Giving a talk in front of the whole class		4.12	
10. Studying for examinations	*	4.02	
11. Teachers unable explain their objectives		4.01	
12. Worry about getting job on leaving school	*	4.01	7
B. MARANOA SHS:			
1. Students who disrupt lessons	*	4.66	
2. Boring lessons	*	4.62	
3. No say for students in how school is run	*	4.57	
4. Noisy classrooms		4.49	
5. Never having enough money	*	4.42	
6. Cold classrooms		4.33	
7. Teachers who cover material too quickly	*	4.31	
8. Surprise tests		4.28	
9. Giving a talk in front of the whole class		4.25	
10. Worry about getting job on leaving school	*	4.18	
11. Too much homework		4.17	
12. Expected act adult without adlt privileges	*	4.16	7
C. DIAMANTINA SHS:			
1. Cold classrooms		4.85	
2. Boring lessons	*	4.67	
3. No say for students in how school is run	*	4.57	
4. Expected act adult without adlt privileges	*	4.52	
5. Giving a talk in front of the whole class		4.37	
6. Late dismissals of classes		4.34	
7. Students who disrupt lessons	*	4.22	
8. Badly worded assignment topics	*	4.21	
9. Teachers who cover material too quickly	*	4.19	
10. Examinations	*	4.17	
11. Studying for examinations	*	4.17	
12. Worry about getting job on leaving school	*	4.17	9
D. INDEPENDENT LADIES' COLLEGE:			
1. Worry abt entry to chosen tertiary course	*	4.83	
2. Too much competition for T.E. scores	*	4.79	
3. No say for students in how school is run	*	4.75	
4. Badly worded assignment topics	*	4.74	
5. Examinations	*	4.73	
6. Studying for examinations	*	4.64	
7. Worry about getting job on leaving school	*	4.49	
8. Boring lessons	*	4.47	
9. Teachers who cover material too quickly	*	4.46	
10. Teachers unable explain their objectives		4.36	
11. Students who disrupt lessons	*	4.35	
12. Waiting for final results		4.34	10

Continued next page ....

TABLE 8 CONTINUED

Comparisons Across Schools of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER SCHOOL
E. INDEPENDENT BOYS' COLLEGE:			
1. Boring lessons	*	4.34	
2. Too much competition for T.E. scores	*	4.30	
3. No say for students in how school is run	*	4.14	
4. Studying for examinations	*	4.10	
5. Worry abt entry to chosen tertiary course	*	4.05	
6. Teachers who cover material too quickly	*	3.96	
7. Expected act adult without adlt privileges	*	3.91	
8. Examinations	*	3.85	
9. Teachers unable explain their objectives		3.83	
10. Trying to decide what to do with my life		3.82	
11. Worry about getting job on leaving school	*	3.82	
12. Pressure from parents to do well in school		3.82	9
F. CATHOLIC LADIES' COLLEGE:			
1. Studying for examinations	*	5.12	
2. Examinations	*	4.98	
3. Worry about getting job on leaving school	*	4.81	
4. Organizing my time effectively		4.78	
5. Teachers who cover material too quickly	*	4.73	
6. Worry abt entry to chosen tertiary course	*	4.71	
7. Boring lessons	*	4.51	
8. Trying to decide what to do with my life		4.51	
9. Too much competition for T.E. scores	*	4.41	
10. Waiting for final results		4.34	
11. Too much assessment in school		4.34	
12. Too much homework		4.34	7
G. CATHOLIC BOYS' COLLEGE:			
1. Studying for examinations	*	4.52	
2. Boring lessons	*	4.39	
3. Examinations	*	4.36	
4. Worry about getting job on leaving school	*	4.35	
5. No say for students in how school is run	*	4.35	
6. Students who disrupt lessons	*	4.27	
7. Late dismissals of classes		4.21	
8. Trying to decide what to do with my life	*	4.10	
9. Pressure from parents to do well in school		4.07	
10. Expected act adult without adlt privileges	*	4.05	
11. Never having enough money		4.01	
12. Learning the wrong material for a test		4.00	8

* = items which also appear among the top 12 problems listed by all Ss from all schools

Similar findings are revealed when attention is focused on year levels (Table 9), academic competence (Table 10), and sexes (Table 11). While the top twelve problems for all Year 8 Ss combined include just six of the top twelve problems listed by all Ss, the number of common problems increases to eight, eleven, ten, and nine for Years 9, 10, 11, and 12 respectively. A similar finding applies to comparisons based on the academic competence of all Ss. The top-twelve list for Ss who rate themselves as academically excellent has just five items in common with the top-twelve list for all Ss, but the number of common items for very good Ss is eight, for good Ss twelve, for average Ss ten, and for below average Ss nine. A comparison of the top twelve problems for all males, all females, and all Ss (i.e., males and females combined) reveals eleven common items between the males and the total sample, and twelve between the females and the total sample. In other words, taking the sample as a whole, there appear to be few differences between male and female perceptions of what constitute the major problems of schooling and adolescence. This claim is borne out by the calculation of a highly significant Spearman's correlation coefficient when comparing males' and females' responses to the AAPI ($r = .9471$; $p = .000$).

TABLE 9

Comparisons Across Year Levels of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GRADE
A. ALL YEAR 8 Ss:			
1. Boring lessons	*	4.56	
2. No say for students in how school is run	*	4.41	
3. Students who disrupt lessons	*	4.33	
4. Late dismissals of classes		4.32	
5. Never having enough money	*	4.14	
6. Expected act adult without adlt priveleges	*	4.07	
7. Noisy classrooms		3.96	
8. Cold classrooms		3.90	
9. Surprise tests		3.88	
10. Hot classrooms		3.82	
11. Teachers who cover material too quickly	*	3.80	
12. Asked to answer question when I don't know		3.78	6
B. ALL YEAR 9 Ss:			
1. No say for students in how school is run	*	4.37	
2. Boring lessons	*	4.33	
3. Late dismissals of classes		4.22	
4. Expected act adult without adlt privileges	*	4.15	
5. Students who disrupt lessons	*	4.08	
6. Teachers who cover material too quickly	*	4.05	
7. Studying for examinations	*	3.99	
8. Examinations	*	3.96	
9. Cold classrooms		3.93	
10. Learning the wrong material for a test		3.93	
11. Badly worded assignment topics	*	3.92	
12. Surprise tests		4.89	8
C. ALL YEAR 10 Ss:			
1. No say for students in how school is run	*	4.79	
2. Boring lessons	*	4.60	
3. Worry about getting job on leaving school	*	4.48	
4. Studying for examinations	*	4.47	
5. Teachers who cover material too quickly	*	4.39	
6. Expected act adult without adlt privileges	*	4.33	
7. Examinations	*	4.33	
8. Too much competition for T.E. scores	*	4.31	
9. Never having enough money	*	4.29	
10. Badly worded assignment topics	*	4.21	
11. Teachers unable explain their objectives		4.18	
12. Students who disrupt lessons	*	4.16	11

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TABLE 9 CONTINUED

Comparisons Across Year Levels of the
12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GRADE
D. ALL YEAR 11 Ss:			
1. Studying for examinations	*	4.67	
2. Boring lessons	*	4.59	
3. Too much competition for T.E. scores	*	4.56	
4. No say for students in how school is run	*	4.52	
5. Examinations	*	4.46	
6. Badly worded assignment topics	*	4.40	
7. Worry about getting job on leaving school	*	4.39	
8. Organizing my time effectively		4.34	
9. Teachers who cover material too quickly	*	4.31	
10. Students who disrupt lessons	*	4.30	
11. Trying to decide what to do with my life		4.25	
12. Never having enough money	*	4.25	10
E. ALL YEAR 12 Ss:			
1. Too much competition for T.E. scores	*	5.12	
2. Studying for examinations	*	4.84	
3. Worry abt entry to chosen tertiary course	*	4.83	
4. Worry about getting job on leaving school	*	4.76	
5. Examinations	*	4.74	
6. Trying to decide what to do with my life		4.61	
7. Organizing my time effectively		4.55	
8. Boring lessons	*	4.50	
9. Teachers who cover material too quickly	*	4.49	
10. Badly worded assignment topics	*	4.46	
11. Waiting for final results		4.36	
12. Never having enough money	*	4.36	9

* = items which also appear among the top 12 problems listed by all Ss from all schools

TABLE 10

Comparisons Across Perceived Levels of Academic Competence of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
A. ALL EXCELLENT Ss:			
1. Boring lessons	*	4.41	
2. Students who disrupt lessons	*	4.00	
3. No say for students in how school is run	*	3.96	
4. Badly worded assignment topics	*	3.92	
5. Noisy classrooms		3.83	
6. Cold classrooms		3.73	
7. Hot classrooms		3.71	
8. Expected act adult without adlt priveleges	*	3.69	
9. Late dismissals of classes		3.54	
10. Teachers unable explain their objectives		3.54	
11. Too much homework		3.41	
12. Trying to decide what to do with my life		3.30	5
B. ALL VERY GOOD Ss:			
1. Students who disrupt lessons	*	4.40	
2. Boring lessons	*	4.10	
3. No say for students in how school is run	*	4.04	
4. Noisy classrooms		3.94	
5. Badly worded assignment topics	*	3.93	
6. Teachers unable explain their objectives		3.90	
7 Worry abt entry to chosen tertiary course	*	3.86	
8. Expected act adult without adlt privileges	*	3.84	
9. Too much competition for T.E. scores	*	3.84	
10. Never having enough money	*	3.84	
11. Hot classrooms		3.73	
12. Cold classrooms		3.72	8
C. ALL GOOD Ss:			
1. Boring lessons	*	4.43	
2. No say for students in how school is run	*	4.42	
3. Students who disrupt lessons	*	4.28	
4. Studying for examinations	*	4.26	
5. Worry about getting job on leaving school	*	4.22	
6. Worry abt entry to chosen tertiary course	*	4.16	
7. Teachers who cover material too quickly	*	4.14	
8. Never having enough money	*	4.13	
9. Too much competition for T.E. scores	*	4.12	
10. Examinations	*	4.11	
11. Expected act adult without adlt privileges	*	4.09	
12. Badly worded assignment topics	*	4.01	12

Continued next page ....

TABLE 10 CONTINUED

Comparisons Across Perceived Levels of Academic Competence of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
D. ALL AVERAGE Ss:			
1. Studying for examinations	*	4.71	
2. Boring lessons	*	4.69	
3. Worry about getting job on leaving school	*	4.59	
4. Teachers who cover material too quickly	*	4.57	
5. Examinations	*	4.56	
6. No say for students in how school is run	*	4.52	
7. Never having enough money	*	4.36	
8. Expected act adult without adlt privileges	*	4.26	
9. Badly worded assignment topics	*	4.26	
10. Trying to decide what to do with my life		4.23	
11. Too much competition for T.E. scores	*	4.22	
12. Giving a talk in front of the whole class		4.20	10
E. ALL BELOW AVERAGE Ss:			
1. Studying for examinations	*	5.67	
2. Examinations	*	5.52	
3. Boring lessons	*	5.17	
4. No say for students in how school is run	*	5.14	
5. Teachers who cover material too quickly	*	5.10	
6. Too much competition for T.E. scores	*	5.03	
7. Worry about getting job on leaving school	*	4.98	
8. Never having enough money	*	4.94	
9. Learning the wrong material for a test		4.93	
10. Organizing my time effectively		4.82	
11. Expected act adult without adlt privileges	*	4.78	
12. Too much homework		4.70	9

* = items which also appear among the top 12 problems listed by all Ss from all schools

TABLE 11

Comparisons Between Sexes of the 12 Highest Ranked Problems on the AAPI

TOP 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
A. ALL MALE Ss:			
1. Boring lessons	*	4.49	
2. No say for students in how school is run	*	4.36	
3. Studying for examinations	*	4.19	
4. Expected act adult without adlt privileges	*	4.06	
5. Never having enough money	*	4.06	
6. Students who disrupt lessons	*	4.04	
7. Teachers who cover material too quickly	*	4.03	
8. Late dismissals of classes		4.01	
9. Worry about getting job on leaving school	*	4.00	
10. Too much competition for T.E. scores	*	3.96	
11. Examinations	*	3.93	
12. Badly worded assignment topics	*	3.92	11
B. ALL FEMALE Ss:			
1. Boring lessons	*	4.55	
2. No say for students in how school is run	*	4.49	
3. Studying for examinations	*	4.46	
4. Worry about getting job on leaving school	*	4.44	
5. Examinations	*	4.42	
6. Teachers who cover material too quickly	*	4.38	
7. Worry abt entry to chosen tertiary course	*	4.37	
8. Students who disrupt lessons	*	4.35	
9. Badly worded assignment topics	*	4.34	
10. Never having enough money	*	4.30	
11. Too much competition for T.E. scores	*	4.28	
12. Expected act adult without adlt privileges	*	4.25	12

* = items which also appear among the top 12 problems listed by all Ss from all schools

Although the emphasis in the preceding discussion has been on the biggest problems identified through the AAPI, it is also of interest to know which potential stressors Ss consider to be relatively inconsequential. Analysis of the AAPI results for all Ss (N = 1664) indicates that the following twelve problems received the lowest mean ratings:

1. Going to the wrong class (1.85) *
2. Abuse of such substances as drugs, alcohol, and cigarettes (2.03)
3. Developing more quickly than my friends (2.05)
4. Getting along with older people (2.14)
5. School discipline is not strict enough (2.18)
6. Getting along with my peers (2.30)
7. Poor classroom lighting (2.37)
8. Relationships with the opposite sex (2.39)
9. Developing more slowly than my friends (2.43)
10. Arriving late for class (2.53)
11. Missing classes (2.53)
12. Learning new skills (2.55)

Comparisons of this list with the lists relating to the various subgroups again indicates a close agreement across groups. For example, eight of the above items appear among the twelve lowest ranked problems for Ss at Independent Ladies' College. This figure increases to nine for Ss at Catholic Boys' College; ten for Ss at Catholic Ladies' College, Independent Boys' College, Warrego S.H.S., and Maranoa S.H.S.; and twelve out of twelve for Ss at Diamantina S.H.S. (see Table 12). Similarly high figures, ranging from nine to twelve, are obtained when the focus is on year levels (Table 13), perceived academic competence (Table 14), and sex (Table 15).

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* Numbers in brackets indicate mean ratings on a 7-point scale. The lower the score the smaller the problem.

TABLE 12

Comparisons Across Schools of the 12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/SCHOOL
A. WARREGO SHS:			
1. Going to the wrong class	*	1.96	
2. Developing more quickly than my friends	*	1.98	
3. Getting along with older people	*	2.01	
4. Abuse of drugs, alcohol, or cigarettes	*	2.17	
5. Learning new skills	*	2.21	
6. Getting along with my peers	*	2.23	
7. Relationships with the opposite sex	*	2.24	
8. Missing classes	*	2.25	
9. Developing more slowly than my friends	*	2.35	
10. Arriving late for class	*	2.37	
11. Problems with my leisure/social activities		2.38	
12. Forgetting materials needed for a lesson		2.46	10
B. MARANOA SHS:			
1. Going to the wrong class	*	2.15	
2. Getting along with my peers	*	2.15	
3. Getting along with older people	*	2.18	
4. Developing more quickly than my friends	*	2.18	
5. Relationships with the opposite sex	*	2.29	
6. Abuse of drugs, alcohol, or cigarettes	*	2.34	
7. Learning new skills	*	2.47	
8. Poor classroom lighting	*	2.52	
9. Developing more slowly than my friends	*	2.56	
10. Getting along with my parents		2.65	
11. Students marking one another's work		2.68	
12. Missing classes	*	2.69	10
C. DIAMANTINA SHS:			
1. Abuse of drugs, alcohol, or cigarettes	*	1.97	
2. Developing more quickly than my friends	*	1.99	
3. Going to the wrong class	*	1.99	
4. Getting along with older people	*	2.08	
5. Developing more slowly than my friends	*	2.10	
6. Getting along with my peers	*	2.11	
7. Relationships with the opposite sex	*	2.20	
8. School discipline is not strict enough	*	2.37	
9. Learning new skills	*	2.39	
10. Poor classroom lighting	*	2.42	
11. Arriving late for class	*	2.56	
12. Missing classes	*	2.56	12
D. INDEPENDENT LADIES' COLLEGE:			
1. Going to the wrong class	*	1.80	
2. School discipline is not strict enough	*	1.82	
3. Abuse of drugs, alcohol, or cigarettes	*	1.86	
4. Having to wearing a school uniform		1.94	
5. Getting along with older people	*	2.09	
6. Developing more quickly than my friends	*	2.15	
7. Poor classroom lighting	*	2.23	
8. Getting along with my peers	*	2.34	
9. Getting along with my teachers		2.51	
10. Students marking one another's work		2.58	
11. Developing more slowly than my friends	*	2.58	
12. Buying textbooks		2.70	8

Continued next page ....

TABLE 12 CONTINUED

Comparisons Across Schools of the 12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/SCHOOL
E. INDEPENDENT BOYS' COLLEGE:			
1. Going to the wrong class	*	1.69	
2. Abuse of drugs, alcohol, or cigarettes	*	1.91	
3. School discipline is not strict enough	*	1.93	
4. Developing more quickly than my friends	*	1.95	
5. Relationships with the opposite sex	*	2.09	
6. Poor classroom lighting	*	2.11	
7. Missing classes	*	2.17	
8. Getting along with older people	*	2.20	
9. Getting along with my peers	*	2.23	
10. Students marking one another's work		2.30	
11. Getting along with my parents		2.34	
12. Developing more slowly than my friends	*	2.36	10
F. CATHOLIC LADIES' COLLEGE:			
1. Going to the wrong class	*	1.76	
2. Having to wear a school uniform		1.89	
3. Abuse of drugs, alcohol, or cigarettes	*	2.01	
4. School discipline is not strict enough	*	2.02	
5. Developing more quickly than my friends	*	2.13	
6. Getting along with older people	*	2.22	
7. Developing more slowly than my friends	*	2.32	
8. Poor classroom lighting	*	2.50	
9. Arriving late for class	*	2.51	
10. Getting along with my peers	*	2.56	
11. School discipline is too strict		2.60	
12. Relationships with the opposite sex	*	2.65	10
G. CATHOLIC BOYS' COLLEGE:			
1. Foreign language classes		1.59	
2. Going to the wrong class	*	1.62	
3. Buying textbooks		1.70	
4. School discipline is not strict enough	*	1.84	
5. Abuse of drugs, alcohol, or cigarettes	*	2.01	
6. Developing more quickly than my friends	*	2.01	
7. Getting along with older people	*	2.22	
8. Poor classroom lighting	*	2.23	
9. Arriving late for class	*	2.27	
10. Missing classes	*	2.28	
11. Relationships with the opposite sex	*	2.52	
12. Expected participate in class discussion		2.53	9

* = items which also appear among the bottom 12 problems listed by all Ss from all schools

TABLE 13

Comparisons Across Year Levels of the
12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GRADE
A. ALL YEAR 8 Ss:			
1. Abuse of drugs, alcohol, or cigarettes	*	1.88	
2. School discipline is not strict enough	*	2.02	
3. Getting along with older people	*	2.23	
4. Going to the wrong class	*	2.28	
5. Poor classroom lighting	*	2.30	
6. Getting along with my parents		2.32	
7. Getting along with my peers	*	2.32	
8. Developing more quickly than my friends	*	2.36	
9. Missing classes	*	2.42	
10. Relationships with the opposite sex	*	2.44	
11. Learning new skills	*	2.50	
12. Students marking one another's work		2.57	10
B. ALL YEAR 9 Ss:			
1. Abuse of drugs, alcohol, or cigarettes	*	2.02	
2. Developing more quickly than my friends	*	2.03	
3. School discipline is not strict enough	*	2.06	
4. Going to the wrong class	*	2.08	
5. Getting along with older people	*	2.19	
6. Poor classroom lighting	*	2.37	
7. Relationships with the opposite sex	*	2.38	
8. Getting along with my peers	*	2.39	
9. Problems with my leisure/social activities		2.44	
10. Developing more slowly than my friends	*	2.51	
11. Getting along with my parents		2.54	
12. Learning new skills	*	2.62	10
C. ALL YEAR 10 Ss:			
1. Going to the wrong class	*	1.76	
2. Abuse of drugs, alcohol, or cigarettes	*	1.99	
3. Developing more quickly than my friends	*	2.04	
4. Getting along with older people	*	2.14	
5. School discipline is not strict enough	*	2.25	
6. Getting along with my peers	*	2.29	
7. Poor classroom lighting	*	2.32	
8. Relationships with the opposite sex	*	2.34	
9. Developing more slowly than my friends	*	2.44	
10. Missing classes	*	2.51	
11. Arriving late for class	*	2.56	
12. Students marking one another's work		2.56	11

Continued next page ....

TABLE 13 CONTINUED

Comparisons Across Year Levels of the
12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GRADE
D. ALL YEAR 11 Ss:			
1. Going to the wrong class	*	1.62	
2. Developing more quickly than my friends	*	1.97	
3. Getting along with older people	*	2.08	
4. Developing more slowly than my friends	*	2.20	
5. Getting along with my peers	*	2.31	
6. Abuse of drugs, alcohol, or cigarettes	*	2.32	
7. Relationships with the opposite sex	*	2.34	
8. Arriving late for class	*	2.42	
9. School discipline is not strict enough	*	2.45	
10. Getting along with my teachers		2.49	
11. Missing classes	*	2.50	
12. Poor classroom lighting	*	2.50	11
E. ALL YEAR 12 Ss:			
1. Going to the wrong class	*	1.54	
2. Developing more quickly than my friends	*	1.86	
3. Abuse of drugs, alcohol, or cigarettes	*	1.92	
4. Getting along with older people	*	2.04	
5. Having to wear a school uniform		2.05	
6. School discipline is not strict enough	*	2.12	
7. Getting along with my peers	*	2.19	
8. Being picked on by other students		2.27	
9. Getting along with my teachers		2.34	
10. Arriving late for class	*	2.34	
11. Developing more slowly than my friends	*	2.34	
12. Poor classroom lighting	*	2.35	9

* = items which also appear among the bottom 12 problems listed by all Ss from all schools

TABLE 14

Comparisons Across Perceived Levels of Academic Competence of the 12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
A. ALL EXCELLENT Ss:			
1. Getting along with older people	*	1.63	
2. Learning new skills	*	1.73	
3. Abuse of drugs, alcohol, or cigarettes	*	1.81	
4. Going to the wrong class	*	1.81	
5. Developing more slowly than my friends	*	1.87	
6. Developing more quickly than my friends	*	2.02	
7. Relationships with the opposite sex	*	2.17	
8. Problems with my leisure/social activities		2.19	
9. School discipline is not strict enough	*	2.20	
10. Missing classes	*	2.22	
11. Getting along with my parents		2.24	
12. Poor classroom lighting	*	2.27	10
B. ALL VERY GOOD Ss:			
1. Going to the wrong class	*	1.76	
2. Developing more quickly than my friends	*	1.82	
3. Abuse of drugs, alcohol, or cigarettes	*	1.87	
4. Getting along with older people		1.97	
5. Developing more slowly than my friends	*	2.03	
6. Getting along with my teachers	*	2.04	
7. Learning new skills	*	2.08	
8. Getting along with my peers	*	2.15	
9. Students marking one another's work		2.24	
10. School discipline is not strict enough	*	2.25	
11. Relationships with the opposite sex	*	2.26	
12. Expected participate in class discussion		2.30	9
C. ALL GOOD Ss:			
1. Going to the wrong class	*	1.90	
2. Developing more quickly than my friends	*	2.95	
3. Abuse of drugs, alcohol, or cigarettes	*	1.96	
4. School discipline is not strict enough	*	2.16	
5. Getting along with older people	*	2.19	
6. Developing more slowly than my friends	*	2.24	
7. Getting along with my peers	*	2.24	
8. Poor classroom lighting	*	2.33	
9. Learning new skills	*	2.44	
10. Relationships with the opposite sex	*	2.45	
11. Getting along with my teachers		2.53	
12. Missing classes	*	2.53	11

Continued next page ....

TABLE 14 CONTINUED

Comparisons Across Perceived Levels of Academic Competence of the 12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
D. ALL AVERAGE Ss:			
1. Going to the wrong class	*	1.85	
2. Abuse of drugs, alcohol, or cigarettes	*	2.04	
3. School discipline is not strict enough	*	2.17	
4. Developing more quickly than my friends	*	2.22	
5. Getting along with older people	*	2.22	
6. Getting along with my peers	*	2.29	
7. Relationships with the opposite sex	*	2.38	
8. Poor classroom lighting	*	2.42	
9. Arriving late for class	*	2.52	
10. Missing classes	*	2.52	
11. Problems with my leisure/social activities		2.73	
12. Developing more slowly than my friends	*	2.74	11
E. ALL BELOW AVERAGE Ss:			
1. Going to the wrong class	*	1.66	
2. School discipline is not strict enough	*	2.16	
3. Getting along with older people	*	2.22	
4. Developing more quickly than my friends	*	2.29	
5. Relationships with the opposite sex	*	2.31	
6. Poor classroom lighting	*	2.49	
7. Arriving late for class	*	2.61	
8. Abuse of drugs, alcohol, or cigarettes	*	2.80	
9. Missing classes	*	2.80	
10. Being picked on by other students		2.82	
11. Students marking one another's work		2.83	
12. Developing more slowly than my friends	*	2.84	10

* = items which also appear among the bottom 12 problems listed by all Ss from all schools

TABLE 15

Comparisons Between Sexes of the 12 Lowest Ranked Problems on the AAPI

BOTTOM 12 PROBLEMS		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
A. ALL MALES:			
1. Going to the wrong class	*	1.80	
2. Abuse of drugs, alcohol, or cigarettes	*	2.02	
3. Developing more quickly than my friends	*	2.04	
4. School discipline is not strict enough	*	2.11	
5. Getting along with older people	*	2.17	
6. Missing classes	*	2.26	
7. Poor classroom lighting	*	2.27	
8. Relationships with the opposite sex	*	2.30	
9. Getting along with my peers	*	2.36	
10. Learning new skills	*	2.42	
11. Arriving late for class	*	2.43	
12. Developing more slowly than my friends	*	2.45	12
B. ALL FEMALES:			
1. Going to the wrong class	*	1.91	
2. Abuse of drugs, alcohol, or cigarettes	*	2.04	
3. Developing more quickly than my friends	*	2.07	
4. Getting along with older people	*	2.11	
5. Getting along with my peers	*	2.24	
6. School discipline is not strict enough	*	2.26	
7. Developing more slowly than my friends	*	2.41	
8. Poor classroom lighting	*	2.46	
9. Having to wear a school uniform		2.47	
10. Relationships with the opposite sex	*	2.48	
11. Getting along with my teachers		2.55	
12. School discipline is too strict		2.58	9

* = items which also appear among the bottom 12 problems listed by all Ss from all schools

The findings presented in the preceding paragraphs and in Tables 8 to 15 suggest high degrees of similarity in responses to the AAPI among the subgroups identified in this study. This view is supported by the calculation of Spearman's correlation coefficients for all possible pairings within each of the dimensions, grade, academic competence, and sex, both in relation to the total sample and in relation to each school treated separately. The results of the relevant Spearman's analyses are presented in Table 16. It is noteworthy that in every cell the correlation coefficient is highly significant with the probability level reaching .000 in every case!

TABLE 16

Spearman's Rank Order Correlation Coefficients for Comparisons of Ss' Responses to the AAPI by Year Level, Academic Competence, and Sex

		ALL SCHLS	WARR. SHS	MARAN. SHS	DIAM. SHS	INDEP L.C.	INDEP B.C.	CATH L.C.	CATH B.C.
A. YEAR LEVELS:									
Yrs 8 & 9	r =	.9266	.7734	.8137	.7745	.8162	.7310	.7068	.8120
Yrs 8 & 10	r =	.8336	.6479	.8465	.6778	.7364	.7801	.6306	.8154
Yrs 8 & 11	r =	.7781	.6085	.6960	.5652	.7533	.7155	.6051	.7495
Yrs 8 & 12	r =	.6919	.5472	.5402	.5480	.6473	.6984	.6603	.6635
Yrs 9 & 10	r =	.9395	.8014	.8763	.7826	.9121	.8346	.8451	.7859
Yrs 9 & 11	r =	.9031	.7608	.7270	.6198	.8813	.7762	.7943	.7754
Yrs 9 & 12	r =	.8331	.6760	.6578	.6026	.8589	.7840	.7861	.6909
Yrs 10 & 11	r =	.9618	.8514	.8063	.8528	.9469	.8830	.8340	.8843
Yrs 10 & 12	r =	.9319	.8331	.6888	.9033	.9287	.8732	.8562	.8359
Yrs 11 & 12	r =	.9680	.9000	.8718	.8992	.9167	.9105	.8894	.9240
B. ACADEMIC COMPETENCE:									
Ex v VG	r =	.9059	.6326	.8118	.6727	.6926	.6364	.7355	.7023
Ex v Good	r =	.8820	.6577	.7852	.5591	.7271	.6470	.7485	.7343
Ex v Av	r =	.8365	.5416	.7104	.5485	.6785	.6159	.7494	.6712
Ex v Bel Av	r =	.7307	.4120	.4686	.4675	.6418	.5487	.6191	.5615
VG v G	r =	.9469	.7720	.9393	.8612	.9345	.9143	.8488	.8865
VG v Av	r =	.9004	.7650	.8513	.8367	.9083	.8650	.8096	.8533
VG v Bel Av	r =	.8109	.5212	.6105	.7179	.8361	.7960	.6547	.7037
G v Av	r =	.9738	.8846	.8985	.9523	.9433	.9398	.9422	.9350
G v Bel Av	r =	.9110	.7381	.6538	.7672	.9009	.8734	.7976	.7663
Av v Bel Av	r =	.9488	.8184	.7659	.7672	.9360	.8804	.8274	.8055
C. SEX:									
M v F	r =	.9471	.7795	.9299	.8998	---	---	---	---

r = Spearman's rank order correlation coefficient.
p (all cells) = .000.
Abbreviations in "B" stand for "excellent", "very good", "good", "average", and "below average".
Lowest correlation coefficient in each column for each of categories "A" and "B" is shown in darker type.

Despite the above findings, and despite the prevailing aura that there is great commonality among groups, there are also some interesting differences. (After all, none of the correlations is perfect, and some are far from perfect.) An example of differences in the all-schools analyses is found in the comparison of excellent Ss and below average Ss (r = .7307). The only items which these two groups share in their top twelve problems (see Table 10) are "Boring lessons", "No say for students in how the school is run", "Being expected to act like an adult without being given adult privileges", and "Too much homework". While the below average Ss list items which tend to highlight feelings of academic vulnerability (e.g., "Studying for examinations", "Examinations", "Teachers who cover the material so quickly that I have trouble keeping up", and "Too much competition for T.E. scores"), the excellent Ss, presumably because they are more confident of academic success, generally omit such items from their top twelve. Instead they tend to focus on environmental factors (e.g., "Students who disrupt lessons", "Noisy classrooms", "Cold classrooms", "Hot classrooms", and "Lessons where teachers keep on going after the bell") which in many instances are probably no more than superable annoyances for students who are serious, motivated, and successful.

Another interesting difference between the excellent and the below average Ss is found in their mean ratings of their top twelve problems. The range for the below average Ss is from a high of 5.67 on "Studying for exams" to a low of 4.70 on "Too much homework", while the range for the excellent Ss is from a much lower high of 4.41 on "Boring lessons" to a low of 3.30 on "Trying to decide what I really want to do with my life".

A similar contrast between groups is apparent in the all-schools comparison of Year 8 and Year 12 Ss (r = .6919). These groups have only three common items in their top

twelve problems (see Table 9): "Boring lessons", "Never having enough money", and "Teachers who cover the material so quickly that I have trouble keeping up". While Year 12 Ss appear to be concerned mainly about their academic performance and its impact on their future ("Too much competition for T.E. scores", "Studying for exams", "Worrying about whether I will get into the tertiary course of my choice", "Worrying about whether I will be able to get a job when I leave school", "Examinations", "Trying to decide what I really want to do with my life", and "Waiting for final results"), Year 8 Ss, as might be expected, seem more concerned about the more mundane, day-to-day events of classroom life ("Students who disrupt lessons", "Lessons where teachers keep on going after the bell", ""Noisy classrooms", "Cold classrooms", "Surprise tests", and "Hot classrooms").

As with the excellent and below average Ss, Year 12 and Year 8 Ss' mean ratings of their top twelve problems appear to be quite different. The range for Year 12 Ss is from 5.12 on "Too much competition for T.E. scores" to 4.36 on "Never having enough money". In contrast, the range for Year 8 Ss is from 4.56 for "Boring lessons" to 3.78 for "Being asked to answer a question in class when I don't know the answer".

In searching for differences between groups, one might expect that the largest differences would occur between the groups which were most removed from each other on whatever dimension was under consideration. This view is supported by the correlational data presented in Table 16. For example, in the comparisons of grades, the correlation coefficients are generally smallest within each subgroup (column) when the comparison is between Years 8 and 12. The only exception is at Catholic Ladies' College where the smallest correlation is obtained in the Year 8-Year 11 comparison. In the comparisons based on academic competence, without exception, the smallest correlation coefficient in each

subgroup (column) is obtained for the comparison of excellent and below average Ss.

An analysis which seems to offer useful insights into differences among groups is the two-way chi square analysis which was applied to individual items on the AAPI (see pp. 89-90). However, although this analysis appeared to work well at the school level where maximum sample size was 300, it proved to be less useful in analysing the data for all schools combined. The much larger sample size (N = 1664) meant that even relatively small differences were frequently found to be statistically significant, thus rendering sensible interpretations of the data almost impossible.

The sorts of interpretations which seem to be possible as a result of the chi square analyses are illustrated in the following statements about some of the more significant year level differences at Independent Ladies' College:

1. From Years 8 through 12, Ss increasingly perceive studying for exams as a problem (p = 0039) (Item 5).

2. There is increasing concern about badly worded assignment topics from Years 8 through 12 (p = .0294) (Item 23).

3. Organizing one's time effectively is increasingly a concern from Years 8 through 12 (p = .0040) (Item 24).

4. There is increasing concern about exams from Years 8 through 12 (p = .0002) (Item 27).

5. Waiting for final results is an increasing problem in Years 8 through 12 (p = .0001) (Item 38).

6. Worry about getting a job after leaving school increases from Years 8 through 12 (p = .0069) (Item 40).

7. There is an increasing feeling from Years 8 through 12 that there is too much competition for T.E. scores (p = .0000) (Item 56).

8. Worrying about entry into tertiary institutions increases in Years 8 through 12 (p = .0000) (Item 66).

An inspection of Table 17 reveals that there are many more significant chi square findings relating to variations in the distribution of problems ratings across year levels at Independent Ladies' College than are represented in the above list. However, these additional chi square findings - unlike the ones interpreted above - are either: not corroborated by a majority of the schools; not capable of uniform interpretation across schools; or not easily interpreted through inspection of the relevant contingency tables. Consequently interpretations of the items involved have been omitted from the above list.

TABLE 17
Results of Chi Square Analyses of Each Item on the AAPI: Comparisons of Grades Within Schools

	ILC	IBC	CLC	CBC	WSHS	MSHS	DSHS
1. Pressure from teachers	.0054	.1042	.5722	.2689	.0009	.0019	.2303
2. Irrelevant subjects	.7103	.0627	.4406	.2860	.3863	.0211	.1073
3. School discip. too strict	.1700	.1226	.2260	.0337	.0081	.0243	.0043
4. Expected to act like adult	.0280	.2394	.6248	.0066	.2497	.1393	.3906
5. Studying for exams	.0039	.0278	.0103	.0469	.1399	.3745	.0002
6. Giving wrong answers	.0217	.1240	.0358	.6427	.7204	.5663	.4306
7. Getting along with peers	.5579	.9018	.4913	.9442	.2208	.3285	.4049
8. Not allowed own decisions	.1528	.4710	.4092	.5038	.0739	.0115	.0427
9. What to do with my life	.0408	.0034	.0896	.2074	.0883	.6639	.3605
10. Late dismissals of classes	.0188	.0083	.4049	.0089	.0000	.0032	.0256
11. Too much school assessment	.0001	.0024	.0507	.0004	.0560	.2573	.0741
12. Surprise tests	.0714	.0537	.0067	.3444	.0121	.0030	.0796
13. Crowded classrooms	.0302	.8433	.6813	.4524	.4181	.1260	.3301
14. Note-taking in class	.1222	.0294	.5944	.3123	.0108	.6521	.1815
15. Slow development	.5859	.0924	.3693	.3342	.0000	.1021	.3919
16. Hot classrooms	.5598	.1442	.2306	.9930	.0280	.0218	.1701
17. Noisy classrooms	.6497	.9574	.0507	.2709	.0023	.0853	.1811
18. Marking each other's work	.7563	.2370	.5200	.3094	.8818	.9113	.0508
19. Too much homework	.8627	.3332	.7152	.0309	.0949	.0231	.1977
20. Pressure from parents	.2678	.2280	.6709	.0348	.2793	.6831	.3742
21. Poor classroom lighting	.6920	.7658	.1647	.1883	.1303	.3530	.3260
22. Unclear unit objectives	.0212	.0947	.6046	.0012	.0461	.2791	.1799
23. Badly worded assignments	.0294	.0252	.1194	.0034	.0012	.0018	.4611
24. Effective use of time	.0040	.0354	.0236	.0035	.0001	.2043	.0118
25. Getting on w. older people	.3768	.2365	.2404	.2194	.5418	.0231	.5672
26. Opposite sex	.6622	.0731	.0952	.9462	.2793	.0570	.2323
27. Examinations	.0002	.0015	.0285	.0001	.0791	.1063	.0773
28. Going to the wrong class	.0289	.2569	.1685	.4264	.0121	.0030	.5453
29. Quick developer	.8060	.0118	.1355	.4028	.6317	.1403	.0289
30. Answering when don't know	.6551	.0078	.8273	.0853	.0005	.0290	.5744
31. Forgetting gear for lesson	.0413	.0064	.1238	.2909	.0252	.0019	.1422
32. Disruptive students	.9116	.5745	.0024	.1511	.4360	.0170	.5297
33. Buying textbooks	.6468	.0235	.3690	.6514	.0199	.7859	.0141
34. Missing classes	.3500	.1284	.3251	.1826	.4429	.3546	.8308
35. Learning new skills	.4211	.3379	.1101	.2944	.2151	.6947	.5637
36. Foreign language classes	.0150	.0000	.0156	.2376	.0000	.0006	.3201
37. Picked on by other stdnts	.0361	.1998	.2711	.3905	.4929	.1663	.0270
38. Waiting for final results	.0001	.0541	.0152	.0254	.0177	.6946	.0004
39. Getting on with parents	.1674	.9443	.0241	.0054	.6003	.0131	.0567
40. Worry about getting job	.0069	.0040	.0455	.0182	.1079	.7571	.2867
41. Boring lessons	.7859	.2953	.2500	.6844	.0444	.0009	.8409
42. Participation in class	.3510	.1799	.2668	.0059	.7276	.1996	.4805
43. Cold classrooms	.3740	.4542	.3966	.0671	.0537	.3720	.0975
44. No say in running school	.1087	.0145	.3658	.4261	.0751	.0103	.0308
45. Arriving late for class	.8841	.0195	.5066	.2984	.2816	.2993	.2038
46. Problems: leisure/social	.0992	.0839	.7059	.4250	.6857	.2904	.0151
47. Teachers who are too fast	.2225	.0115	.0024	.0260	.1490	.1036	.2406
48. Talk in front of class	.0281	.2473	.1383	.1649	.2205	.6920	.0211
49. Pressure self to do well	.0365	.9009	.4421	.0077	.7101	.8693	.0177
50. Forgetting assignment	.2831	.0287	.4641	.9186	.2265	.0350	.9358
51. Having to go to school	.4117	.0045	.4810	.0529	.1935	.1753	.2809
52. Getting on with teachers	.7966	.3167	.9290	.6558	.0000	.0376	.0761
53. Abuse drugs, alcohol, cigs	.0078	.1106	.2297	.1548	.4968	.4422	.1502
54. Treated unfairly by tchrs	.9295	.3408	.9093	.2009	.0019	.0052	.0045
55. School discipline lacking	.5339	.1617	.4551	.3309	.0240	.6831	.4779
56. Competition for TE scores	.0000	.0011	.0061	.0080	.0010	.1079	.0010
57. Never enough money	.0733	.1466	.6624	.2839	.1133	.7679	.2005
58. Writing assignments	.1986	.0080	.0571	.0012	.0114	.8867	.0206
59. Negative feelings abt self	.2739	.7118	.4421	.0697	.5263	.8242	.0969
60. Scheduled tests	.6249	.2162	.1158	.7328	.1640	.3536	.1916
61. Sibling relationships	.0177	.5318	.3750	.0035	.1099	.1384	.3282
62. Waiting for exam results	.1313	.9941	.2988	.6091	.0232	.3091	.0247
63. Wearing a school uniform	.0421	.3373	.0203	.1587	.0004	.0008	.0461
64. Not treated like an adult	.1173	.1196	.0484	.3549	.5077	.5425	.0130
65. Inabil. control feelings	.6326	.0695	.2641	.7663	.0446	.5746	.6667
66. Worry abt tert. entrance	.0000	.0395	.2378	.3044	.0334	.2729	.0223
67. Not completing assignments	.7626	.1181	.0381	.3002	.0763	.2347	.8449
68. Learning wrong material	.6937	.1019	.2686	.1206	.1079	.0230	.4299
NUMBER OF SIGNIF. FINDINGS	23	22	15	19	27	23	20

NOTE: Significant findings ($p < .05$) are underlined.

The point to be made from the preceding discussion is that although the major thrust of many of the findings reported earlier in this chapter is towards indicating similarities rather than differences among groups, and although such a view is even supported by the data presented later in this paragraph, the present research has nevertheless revealed a substantial minority of significant group differences which are worthy of further consideration. For example, a count of the number of significant chi square findings in Table 17 reveals significant differences among grades in 149 out of 476 analyses (31.3 percent). A similar ratio of significant chi square results occurs on the academic competence dimension, with 147 out of 476 (30.9 percent) of the findings having a probability level of less than .05. On the comparison of the sexes, the proportion of significant differences is much lower, but still reaches 18 out of 204, or 8.8 percent.

Of course, the converse of the above findings is that no significant differences were obtained in 68.7 percent of the analyses relating to grades, 69.1 percent of the analyses relating to academic competence, and 91.2 percent of the analyses relating to sex. When attention is turned to some of the exploratory dimensions, significant differences among groups again fail to dominate the findings. For example, in the all-schools analyses (where the larger N should make significant chi square results easier to obtain), when Ss whose home language is English are compared with Ss whose home language is not English, only 12 percent of the chi square analyses on the 68 items of the AAPI are significant. When the comparison focuses on Ss from nuclear families, blended families, and single-parent families, just 18 percent of the differences reach statistical significance. This figure increases to 28 percent when comparisons are based on birth order but drops to just 7 percent for comparisons based on family size. Thus it seems reasonable to assert that the prevailing evidence obtained

through the AAPI is of similarity across a wide variety of groups in their identification of the major problems of schooling and adolescence.

No attempt was made in the present study to seek direct, empirically-based answers to the fourth research question: **"What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents cope with stress more effectively?"** Instead, the plan was to address this question mainly by reviewing and evaluating the existing literature relating to adolescent coping. However, it was felt that a more informed discussion would take place if it was known: (1) what some of the major environmental stressors for Australian adolescents were; and (2) what sorts of strategies Australian adolescents generally use in attempting to deal with their problems. It was anticipated that the AAPI would provide information of relevance to "1", while information about "2" was sought through the ACI (Adolescent Coping Inventory).

The same sorts of analyses were applied to the 54-item ACI as were used in dealing with the AAPI: calculation of mean ratings for all groups on each item, consequent ordering of responses according to their frequency of use, calculation of correlations between selected groups in their overall responses to the ACI, and item-by-item chi square comparisons of selected groups of Ss.

Mean ratings calculated for each item in the ACI for all 1664 Ss indicate that the twelve most frequently used coping strategies identified by Ss in the present study are:

1. Listen to music - stereo, radio, etc. (5.40) *
2. Try to make my own decisions (5.02)
3. Try on my own to figure out how to deal with my problems (4.94)
4. Try to keep up friendships or make new friends (4.85)
5. Try to improve myself (e.g., get my body in shape, get better marks, etc.) (4.82)
6. Daydream about how I would like things to be (4.77)
7. Watch T.V. (4.64)
8. Try to get more organized and sort out my priorities (4.42)
9. Spend time with someone I care about (4.42)
10. Go along with my parents' requests and rules (4.34)
11. Swear (4.33)
12. Try to think of the good things in my life (4.25)

To an even greater extent than the "top-twelve problems" list, the above list strongly reflects Ss' responses across a wide range of subgroups. This is illustrated in Table 18 where the number of duplications of the most frequently used coping strategies between the individual schools and the above list ranges from eight out of twelve for Independent Ladies' College to eleven out of twelve for Independent Boys' College, Warrego S.H.S., Maranoa S.H.S., and Diamantina S.H.S.; in Table 19 where the number of common listings ranges from nine in Year 12 to eleven in Years 8, 9, and 10; in Table 20 where the number of common listings ranges from eight for below average Ss to twelve for very good Ss; and in Table 21 where both males and females have ten listings in common with the total sample.

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* Numbers in brackets indicate mean ratings on a 7-point scale. The bigger the score the more frequently is the coping strategy used.

TABLE 18

Comparisons Across Schools of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER SCHOOL
A. WARREGO SHS:			
1. Listen to music	*	5.70	
2. Try to make my own decisions	*	4.99	
3. Keep up friendships/make new friends	*	4.98	
4. Watch T.V.	*	4.97	
5. Work out alone how deal with my problems	*	4.80	
6. Try to improve myself	*	4.73	
7. Swear	*	4.45	
8. Daydream about how things should be	*	4.43	
9. Go along with parents' requests & rules	*	4.41	
10. Spend time with someone I care about	*	4.40	
11. Joke and keep a sense of humour		4.27	
12. Try get more organized/estab. priorities	*	4.22	11
B. MARANOA SHS:			
1. Listen to music	*	5.78	
2. Daydream about how things should be	*	5.16	
3. Work out alone how deal with my problems	*	5.09	
4. Try to make my own decisions	*	5.00	
5. Watch T.V.	*	4.93	
6. Keep up friendships/make new friends	*	4.83	
7. Try to improve myself	*	4.66	
8. Spend time with someone I care about	*	4.57	
9. Try think of the good things in my life	*	4.45	
10. Swear	*	4.38	
11. Joke and keep a sense of humour		4.36	
12. Try get more organized/estab. priorities	*	4.26	11
C. DIAMANTINA SHS:			
1. Listen to music	*	5.61	
2. Try to make my own decisions	*	5.00	
3. Keep up friendships/make new friends	*	4.97	
4. Work out alone how deal with my problems	*	4.95	
5. Try to improve myself	*	4.71	
6. Daydream about how things should be	*	4.69	
7. Spend time with someone I care about	*	4.65	
8. Try think of the good things in my life	*	4.40	
9. Watch T.V.	*	4.40	
10. Go along with parents' requests & rules	*	4.34	
11. Try get more organized/estab. priorities	*	4.28	
12. Apologize to people		4.25	11
D. INDEPENDENT LADIES' COLLEGE:			
1. Listen to music	*	5.19	
2. Try to make my own decisions	*	5.08	
3. Try to improve myself	*	5.06	
4. Keep up friendships/make new friends	*	5.03	
5. Work out alone how deal with my problems	*	4.91	
6. Daydream about how things should be	*	4.79	
7. Try get more organized/estab. priorities	*	4.77	
8. Talk to a friend about how I feel		4.76	
9. Go along with parents' requests & rules	*	4.52	
10. Try to reason with my parents/compromise		4.52	
11. Apologize to people		4.49	
12. Work hard on schoolwork/school projects		4.47	8

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TABLE 18 CONTINUED

Comparisons Across Schools of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER SCHOOL
E. INDEPENDENT BOYS' COLLEGE:			
1. Listen to music	*	5.12	
2. Try to make my own decisions	*	5.10	
3. Try to improve myself	*	4.93	
4. Work out alone how deal with my problems	*	4.91	
5. Keep up friendships/make new friends	*	4.68	
6. Watch T.V.	*	4.61	
7. Daydream about how things should be	*	4.60	
8. Try get more organized/estab. priorities	*	4.53	
9. Go along with parents' requests & rules	*	4.51	
10. Swear	*	4.44	
11. Joke and keep a sense of humour		4.37	
12. Spend time with someone I care about	*	4.30	11
F. CATHOLIC LADIES' COLLEGE:			
1. Listen to music	*	5.42	
2. Daydream about how things should be	*	5.37	
3. Work out alone how deal with my problems	*	5.17	
4. Try to make my own decisions	*	4.95	
5. Keep up friendships/make new friends	*	4.92	
6. Talk to a friend about how I feel		4.83	
7. Watch T.V.	*	4.74	
8. Try to improve myself	*	4.68	
9. Spend time with someone I care about	*	4.58	
10. Swear	*	4.48	
11. Try get more organized/estab. priorities	*	4.43	
12. Spend time with boyfriend or girlfriend	*	4.42	11
G. CATHOLIC BOYS' COLLEGE:			
1. Listen to music	*	5.07	
2. Try to make my own decisions	*	4.95	
3. Work out alone how deal with my problems	*	4.84	
4. Try to improve myself	*	4.80	
5. Watch T.V.	*	4.61	
6. Swear	*	4.58	
7. Daydream about how things should be	*	4.58	
8. Do a strenuous physical activity		4.53	
9. Keep up friendships/make new friends	*	4.52	
10. Try get more organized/estab. priorities	*	4.30	
11. Go along with parents' requests & rules	*	4.22	
12. Apologize to people		4.09	10

* = items which also appear among the top 12 coping strategies listed by all Ss from all schools

TABLE 19

Comparisons Across Year Levels of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GRADE
A. ALL YEAR 8 Ss:			
1. Listen to music	*	5.19	
2. Watch T.V.	*	5.10	
3. Keep up friendships/make new friends	*	4.86	
4. Try to improve myself	*	4.73	
5. Try to make my own decisions	*	4.59	
6. Work out alone how deal with my problems	*	4.49	
7. Go along with parents' requests & rules	*	4.47	
8. Try think of the good things in my life	*	4.45	
9. Apologize to people		4.42	
10. Daydream about how things should be	*	4.38	
11. Spend time with someone I care about	*	4.35	
12. Try get more organized/estab. priorities	*	4.27	11
B. ALL YEAR 9 Ss:			
1. Listen to music	*	5.38	
2. Try to make my own decisions	*	4.76	
3. Keep up friendships/make new friends	*	4.75	
4. Try to improve myself	*	4.73	
5. Watch T.V.	*	4.70	
6. Daydream about how things should be	*	4.66	
7. Work out alone how deal with my problems	*	4.63	
8. Spend time with someone I care about	*	4.44	
9. Swear	*	4.35	
10. Apologize to people		4.27	
11. Try get more organized/estab. priorities	*	4.24	
12. Go along with parents' requests & rules	*	4.18	11
C. ALL YEAR 10 Ss:			
1. Listen to music	*	5.47	
2. Try to make my own decisions	*	5.01	
3. Try to improve myself	*	4.99	
4. Work out alone how deal with my problems	*	4.98	
5. Keep up friendships/make new friends	*	4.98	
6. Daydream about how things should be	*	4.94	
7. Watch T.V.	*	4.67	
8. Try get more organized/estab. priorities	*	4.47	
9. Go along with parents' requests & rules	*	4.45	
10. Spend time with someone I care about	*	4.44	
11. Try think of the good things in my life	*	4.41	
12. Joke and keep a sense of humour		4.40	11

Continued next page ....

TABLE 19 CONTINUED

Comparisons Across Year Levels of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GRADE
E. ALL YEAR 11 Ss:			
1. Listen to music	*	5.53	
2. Work out alone how deal with my problems	*	5.24	
3. Try to make my own decisions	*	5.21	
4. Daydream about how things should be	*	5.02	
5. Keep up friendships/make new friends	*	4.86	
6. Try to improve myself	*	4.80	
7. Watch T.V.	*	4.48	
8. Swear	*	4.46	
9. Spend time with someone I care about	*	4.43	
10. Try get more organized/estab. priorities	*	4.38	
11. Talk to a friend about how I feel		4.35	
12. Go along with parents' requests & rules	*	4.31	11
F. ALL YEAR 12 Ss:			
1. Try to make my own decisions	*	5.54	
2. Listen to music	*	5.40	
3. Work out alone how deal with my problems	*	5.35	
4. Daydream about how things should be	*	4.84	
5. Try to improve myself	*	4.82	
6. Keep up friendships/make new friends	*	4.76	
7. Try get more organized/estab. priorities	*	4.75	
8. Talk to a friend about how I feel		4.46	
9. Swear	*	4.43	
10. Spend time with someone I care about	*	4.41	
11. Try to see good in a difficult situation		4.32	
12. Joke and keep a sense of humour		4.28	9

* = items which also appear among the top 12 coping strategies listed by all Ss from all schools

TABLE 20

Comparisons Across Perceived Levels of Academic Competence of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
A. ALL EXCELLENT Ss:			
1. Try to make my own decisions	*	5.08	
2. Try to improve myself	*	4.99	
3. Work out alone how deal with my problems	*	4.90	
4. Listen to music	*	4.89	
5. Daydream about how things should be	*	4.84	
6. Try get more organized/estab. priorities	*	4.64	
7. Go along with parents' requests & rules	*	4.61	
8. Try to reason with my parents/compromise		4.53	
9. Keep up friendships/make new friends	*	4.48	
10. Watch T.V.	*	4.48	
11. Swear	*	4.43	
12. Spend time with someone I care about	*	4.35	11
B. ALL VERY GOOD Ss:			
1. Listen to music	*	5.14	
2. Try to make my own decisions	*	5.04	
3. Try to improve myself	*	4.98	
4. Work out alone how deal with my problems	*	4.98	
5. Keep up friendships/make new friends	*	4.87	
6. Go along with parents' requests & rules	*	4.65	
7. Try get more organized/estab. priorities	*	4.63	
8. Try think of the good things in my life	*	4.46	
9. Work hard on schoolwork/school projects		4.45	
10. Daydream about how things should be	*	4.45	
11. Watch T.V.	*	4.40	
12. Spend time with someone I care about	*	4.38	11
C. ALL GOOD Ss:			
1. Listen to music	*	5.44	
2. Try to make my own decisions	*	5.09	
3. Work out alone how deal with my problems	*	5.03	
4. Try to improve myself	*	4.94	
5. Keep up friendships/make new friends	*	4.92	
6. Daydream about how things should be	*	4.90	
7. Watch T.V.	*	4.69	
8. Try get more organized/estab. priorities	*	4.51	
9. Go along with parents' requests & rules	*	4.37	
10. Spend time with someone I care about	*	4.37	
11. Try think of the good things in my life	*	4.27	
12. Swear	*	4.27	12

Continued next page ....

TABLE 20 CONTINUED

Comparisons Across Perceived Levels of Academic Competence of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
E. ALL AVERAGE Ss:			
1. Listen to music	*	5.51	
2. Try to make my own decisions	*	4.94	
3. Work out alone how deal with my problems	*	4.85	
4. Keep up friendships/make new friends	*	4.84	
5. Try to improve myself	*	4.80	
6. Daydream about how things should be	*	4.72	
7. Watch T.V.	*	4.69	
8. Spend time with someone I care about	*	4.43	
9. Swear	*	4.38	
10. Try get more organized/estab. priorities	*	4.29	
11. Go along with parents' requests & rules	*	4.24	
12. Joke and keep a sense of humour		4.23	11
F. ALL BELOW AVERAGE Ss:			
1. Listen to music	*	5.56	
2. Swear	*	5.28	
3. Try to make my own decisions	*	5.12	
4. Daydream about how things should be	*	5.07	
5. Keep up friendships/make new friends	*	4.99	
6. Work out alone how deal with my problems	*	4.94	
7. Watch T.V.	*	4.81	
8. Spend time with someone I care about	*	4.74	
9. Joke and keep a sense of humour		4.32	
10. Spend time with boyfriend/girlfriend		4.25	
11. Get angry and yell at people		4.23	
12. Try to help others solve their problems		4.19	8

* = items which also appear among the top 12 coping strategies listed by all Ss from all schools

TABLE 21

Comparisons Between Sexes of the 12 Highest Ranked Coping Strategies on the ACI

TOP 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS TOP-12 ITEMS PER GROUP
A. ALL MALE Ss:			
1. Listen to music	*	5.30	
2. Try to make my own decisions	*	5.02	
3. Work out alone how deal with my problems	*	4.86	
4. Try to improve myself	*	4.84	
5. Watch T.V.	*	4.73	
6. Keep up friendships/make new friends	*	4.65	
7. Daydream about how things should be	*	4.55	
8. Swear	*	4.53	
9. Do a strenuous physical activity		4.37	
10. Go along with parents' requests & rules	*	4.36	
11. Joke and keep a sense of humour		4.33	
12. Try get more organized/estab. priorities	*	4.31	10
B. ALL FEMALE Ss:			
1. Listen to music	*	5.49	
2. Keep up friendships/make new friends	*	5.04	
3. Work out alone how deal with my problems	*	5.03	
4. Try to make my own decisions	*	5.02	
5. Daydream about how things should be	*	4.99	
6. Try to improve myself	*	4.80	
7. Talk to a friend about how I feel		4.74	
8. Spend time with someone I care about	*	4.61	
9. Watch T.V.	*	4.56	
10. Try get more organized/estab. priorities	*	4.53	
11. Try to help others solve their problems		4.40	
12. Go along with parents' requests & rules	*	4.32	10

* = items which also appear among the top 12 coping strategies listed by all Ss from all schools

Useful insights into Ss' coping strategies can be gained by contrasting their most frequently used strategies with their least used strategies. According to the data obtained through the ACI, the least used strategies for all Ss combined (N = 1664) are:

1. Talk to a minister, priest, or rabbi (1.39) *
2. Seek professional counselling (not from a teacher or a school counsellor) (1.41)
3. Use drugs (not prescribed by a doctor) (1.46)
4. Use drugs prescribed by a doctor (1.81)
5. Smoke (1.90)
6. Talk to a teacher or counsellor at school about what bothers me (1.90)
7. Go to Church (2.00)
8. Drink alcohol (e.g., beer, wine, liquor) (2.13)
9. Ride around in the car (2.19)
10. Talk to my father about what bothers me (2.46)
11. Talk to a brother or sister about how I feel (2.49)
12. Pray (2.52)

Comparison of this list with the lists relating to the various subgroups again indicates a remarkably close agreement across groups. For example, in each of the four non-government schools, eleven of the above items appear among the twelve least used strategies. In each of the three government schools, the figure is even higher at twelve out of twelve (see Table 22). Similarly high figures, ranging from 10 to 12, are obtained when the focus is on year levels (Table 23), perceived academic competence (Table 24), and sex (Table 25).

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* Numbers in brackets indicate mean ratings on a 7-point scale. The smaller the score the less frequently is the coping strategy used.

TABLE 22

Comparisons Across Schools of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/SCHOOL
A. WARREGO SHS:			
1. Use drugs (not prescribed by a doctor)	*	1.43	
2. Seek professional counselling	*	1.47	
3. Talk to a minister, priest, or rabbi	*	1.55	
4. Talk to a teacher or counsellor at school	*	1.62	
5. Smoke	*	2.02	
6. Use drugs prescribed by a doctor	*	2.05	
7. Go to Church	*	2.06	
8. Drink alcohol (e.g., beer, wine, liquor)	*	2.19	
9. Ride around in the car	*	2.33	
10. Talk to my father about what bothers me	*	2.36	
11. Pray	*	2.45	
12. Talk to a brother/sister about how I feel	*	2.66	12
B. MARANOA SHS:			
1. Talk to a minister, priest, or rabbi	*	1.42	
2. Seek professional counselling	*	1.50	
3. Use drugs (not prescribed by a doctor)	*	1.66	
4. Talk to a teacher or counsellor at school	*	1.88	
5. Use drugs prescribed by a doctor	*	1.89	
6. Go to Church	*	1.91	
7. Smoke	*	2.11	
8. Talk to my father about what bothers me	*	2.34	
9. Pray	*	2.46	
10. Drink alcohol (e.g., beer, wine, liquor)	*	2.48	
11. Ride around in the car	*	2.62	
12. Talk to a brother/sister about how I feel	*	2.67	12
C. DIAMANTINA SHS:			
1. Use drugs (not prescribed by a doctor)	*	1.39	
2. Seek professional counselling	*	1.40	
3. Talk to a minister, priest, or rabbi	*	1.46	
4. Use drugs prescribed by a doctor	*	1.54	
5. Talk to a teacher or counsellor at school	*	1.98	
6. Smoke	*	2.02	
7. Go to Church	*	2.03	
8. Talk to my father about what bothers me	*	2.09	
9. Drink alcohol (e.g., beer, wine, liquor)	*	2.28	
10. Ride around in the car	*	2.30	
11. Talk to a brother/sister about how I feel	*	2.38	
12. Pray	*	2.64	12
D. INDEPENDENT LADIES' COLLEGE:			
1. Use drugs (not prescribed by a doctor)	*	1.23	
2. Seek professional counselling	*	1.25	
3. Talk to a minister, priest, or rabbi	*	1.25	
4. Smoke	*	1.54	
5. Use drugs prescribed by a doctor	*	1.70	
6. Play video games		1.74	
7. Drink alcohol (e.g., beer, wine, liquor)	*	1.74	
8. Ride around in the car	*	1.88	
9. Go to Church	*	1.89	
10. Talk to a teacher or counsellor at school	*	1.97	
11. Talk to a brother/sister about how I feel	*	2.39	
12. Talk to my father about what bothers me	*	2.44	11

Continued next page ....

TABLE 22 CONTINUED

Comparisons Across Schools of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/SCHOOL
E. INDEPENDENT BOYS' COLLEGE:			
1. Talk to a minister, priest, or rabbi	*	1.41	
2. Seek professional counselling	*	1.43	
3. Use drugs (not prescribed by a doctor)	*	1.58	
4. Smoke	*	1.69	
5. Go to Church	*	1.85	
6. Talk to a teacher or counsellor at school	*	1.88	
7. Use drugs prescribed by a doctor	*	1.94	
8. Cry		2.12	
9. Drink alcohol (e.g., beer, wine, liquor)	*	2.20	
10. Ride around in the car	*	2.28	
11. Pray	*	2.34	
12. Talk to a brother/sister about how I feel	*	2.42	11
F. CATHOLIC LADIES' COLLEGE:			
1. Talk to a minister, priest, or rabbi	*	1.30	
2. Seek professional counselling	*	1.34	
3. Use drugs (not prescribed by a doctor)	*	1.41	
4. Use drugs prescribed by a doctor	*	1.52	
5. Ride around in the car	*	1.89	
6. Drink alcohol (e.g., beer, wine, liquor)	*	1.91	
7. Talk to a teacher or counsellor at school	*	2.01	
8. Smoke	*	2.15	
9. Play video games		2.20	
10. Talk to my father about what bothers me	*	2.23	
11. Go to Church	*	2.24	
12. Talk to a brother/sister about how I feel	*	2.55	11
G. CATHOLIC BOYS' COLLEGE:			
1. Talk to a minister, priest, or rabbi	*	1.37	
2. Seek professional counselling	*	1.47	
3. Use drugs (not prescribed by a doctor)	*	1.51	
4. Talk to a teacher or counsellor at school	*	1.94	
5. Use drugs prescribed by a doctor	*	1.96	
6. Ride around in the car	*	1.97	
7. Smoke	*	2.00	
8. Drink alcohol (e.g., beer, wine, liquor)	*	2.12	
9. Go to Church	*	2.23	
10. Cry		2.41	
11. Pray	*	2.43	
12. Talk to a brother/sister about how I feel	*	2.44	11

* = items which also appear among the bottom 12 coping strategies listed by all Ss from all schools

TABLE 23

Comparisons Across Year Levels of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GRADE
A. ALL YEAR 8 Ss:			
1. Use drugs (not prescribed by a doctor)	*	1.20	
2. Seek professional counselling	*	1.53	
3. Talk to a minister, priest, or rabbi	*	1.58	
4. Smoke	*	1.59	
5. Drink alcohol (e.g., beer, wine, liquor)	*	1.64	
6. Talk to a teacher or counsellor at school	*	1.79	
7. Use drugs prescribed by a doctor	*	2.04	
8. Go to Church	*	2.18	
9. Ride around in the car	*	2.18	
10. Talk to a brother/sister about how I feel	*	2.35	
11. Pray	*	2.59	
12. Talk to my father about what bothers me	*	2.64	12
B. ALL YEAR 9 Ss:			
1. Talk to a minister, priest, or rabbi	*	1.49	
2. Use drugs (not prescribed by a doctor)	*	1.50	
3. Seek professional counselling	*	1.59	
4. Use drugs prescribed by a doctor	*	1.90	
5. Smoke	*	1.95	
6. Talk to a teacher or counsellor at school	*	2.00	
7. Drink alcohol (e.g., beer, wine, liquor)	*	2.06	
8. Go to Church	*	2.06	
9. Ride around in the car	*	2.16	
10. Talk to a brother/sister about how I feel	*	2.39	
11. Talk to my father about what bothers me	*	2.44	
12. Try to increase amount of part-time work		2.52	11
C. ALL YEAR 10 Ss:			
1. Talk to a minister, priest, or rabbi	*	1.36	
2. Seek professional counselling	*	1.43	
3. Use drugs (not prescribed by a doctor)	*	1.43	
4. Talk to a teacher or counsellor at school	*	1.77	
5. Use drugs prescribed by a doctor	*	1.84	
6. Smoke	*	1.88	
7. Drink alcohol (e.g., beer, wine, liquor)	*	2.09	
8. Ride around in the car	*	2.09	
9. Go to Church	*	2.14	
10. Talk to my father about what bothers me	*	2.49	
11. Pray	*	2.66	
12. Talk to a brother/sister about how I feel	*	2.70	12

Continued next page ....

TABLE 23 CONTINUED

Comparisons Across Year Levels of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GRADE
E. ALL YEAR 11 Ss:			
1. Seek professional counselling	*	1.25	
2. Talk to a minister, priest, or rabbi	*	1.32	
3. Use drugs prescribed by a doctor	*	1.72	
4. Use drugs (not prescribed by a doctor)	*	1.73	
5. Go to Church	*	1.84	
6. Talk to a teacher or counsellor at school	*	1.97	
7. Smoke	*	2.15	
8. Ride around in the car	*	2.31	
9. Talk to my father about what bothers me	*	2.33	
10. Play video games		2.35	
11. Talk to a brother/sister about how I feel	*	2.37	
12. Pray	*	2.39	11
F. ALL YEAR 12 Ss:			
1. Talk to a minister, priest, or rabbi	*	1.21	
2. Seek professional counselling	*	1.25	
3. Use drugs (not prescribed by a doctor)	*	1.40	
4. Use drugs prescribed by a doctor	*	1.56	
5. Go to Church	*	1.80	
6. Smoke	*	1.91	
7. Talk to a teacher or counsellor at school	*	1.96	
8. Play video games		1.99	
9. Ride around in the car	*	2.21	
10. Pray	*	2.34	
11. Talk to my father about what bothers me	*	2.38	
12. Drink alcohol (e.g., beer, wine, liquor)	*	2.45	11

* = items which also appear among the bottom 12 coping strategies listed by all Ss from all schools

TABLE 24

Comparisons Across Perceived Levels of Academic Competence of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
A. ALL EXCELLENT Ss:			
1. Seek professional counselling	*	1.33	
2. Talk to a minister, priest, or rabbi	*	1.40	
3. Use drugs (not prescribed by a doctor)	*	1.58	
4. Go to Church	*	1.76	
5. Talk to a teacher or counsellor at school	*	1.78	
6. Smoke	*	1.90	
7. Use drugs prescribed by a doctor	*	2.00	
8. Drink alcohol (e.g., beer, wine, liquor)	*	2.01	
9. Ride around in the car	*	2.14	
10. Try increase amount of parttime employment		2.43	
11. Talk to a brother/sister about how I feel	*	2.59	
12. Let off steam by complaining to my friends		2.65	10
B. ALL VERY GOOD Ss:			
1. Use drugs (not prescribed by a doctor)	*	1.21	
2. Smoke	*	1.37	
3. Seek professional counselling	*	1.39	
4. Talk to a minister, priest, or rabbi	*	1.47	
5. Drink alcohol (e.g., beer, wine, liquor)	*	1.67	
6. Use drugs prescribed by a doctor	*	1.80	
7. Talk to a teacher or counsellor at school	*	1.94	
8. Ride around in the car	*	1.95	
9. Go to Church	*	2.23	
10. Talk to a brother/sister about how I feel	*	2.33	
11. Try stay away from home much as possible		2.56	
12. Talk to my father about what bothers me	*	2.58	11
C. ALL GOOD Ss:			
1. Use drugs (not prescribed by a doctor)	*	1.35	
2. Talk to a minister, priest, or rabbi	*	1.35	
3. Seek professional counselling	*	1.36	
4. Use drugs prescribed by a doctor	*	1.69	
5. Smoke	*	1.70	
6. Talk to a teacher or counsellor at school	*	1.95	
7. Go to Church	*	2.01	
8. Drink alcohol (e.g., beer, wine, liquor)	*	2.02	
9. Ride around in the car	*	2.10	
10. Talk to a brother/sister about how I feel	*	2.42	
11. Talk to my father about what bothers me	*	2.48	
12. Pray	*	2.50	12

Continued next page ....

TABLE 24 CONTINUED

Comparisons Across Perceived Levels of Academic Competence
the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
E. ALL AVERAGE Ss:			
1. Talk to a minister, priest, or rabbi	*	1.39	
2. Seek professional counselling	*	1.49	
3. Use drugs (not prescribed by a doctor)	*	1.49	
4. Use drugs prescribed by a doctor	*	1.86	
5. Talk to a teacher or counsellor at school	*	1.91	
6. Go to Church	*	1.96	
7. Smoke	*	2.08	
8. Drink alcohol (e.g., beer, wine, liquor)	*	2.21	
9. Ride around in the car	*	2.30	
10. Talk to my father about what bothers me	*	2.36	
11. Pray	*	2.41	
12. Talk to a brother/sister about how I feel	*	2.64	11
F. ALL BELOW AVERAGE Ss:			
1. Seek professional counselling	*	1.29	
2. Talk to a minister, priest, or rabbi	*	1.31	
3. Talk to a teacher or counsellor at school	*	1.61	
4. Use drugs prescribed by a doctor	*	1.80	
5. Go to Church	*	1.82	
6. Use drugs (not prescribed by a doctor)	*	1.94	
7. Pray	*	2.31	
8. Talk to my father about what bothers me	*	2.34	
9. Read something take mind off the problem		2.36	
10. Talk to a brother/sister about how I feel	*	2.43	
11. Ride around in the car	*	2.66	
12. Smoke	*	2.80	11

* = items which also appear among the bottom 12 coping strategies listed by all Ss from all schools

TABLE 25

Comparisons Between Sexes of the 12 Lowest Ranked Coping Strategies on the ACI

BOTTOM 12 COPING STRATEGIES		MEAN RATING (7-point scale)	NO. OF ALL-SCHOOLS BOTTOM-12 ITEMS/GROUP
A. ALL MALE Ss:			
1. Seek professional counselling	*	1.48	
2. Talk to a minister, priest, or rabbi	*	1.48	
3. Use drugs (not prescribed by a doctor)	*	1.57	
4. Smoke	*	1.87	
5. Talk to a teacher or counsellor at school	*	1.90	
6. Go to Church	*	1.96	
7. Use drugs prescribed by a doctor	*	1.99	
8. Cry		2.19	
9. Drink alcohol (e.g., beer, wine, liquor)	*	2.30	
10. Ride around in the car	*	2.34	
11. Pray	*	2.36	
12. Talk to a brother/sister about how I feel	*	2.40	11
B. ALL FEMALE Ss:			
1. Talk to a minister, priest, or rabbi	*	1.31	
2. Seek professional counselling	*	1.33	
3. Use drugs (not prescribed by a doctor)	*	1.35	
4. Use drugs prescribed by a doctor	*	1.64	
5. Talk to a teacher or counsellor at school	*	1.90	
6. Smoke	*	1.92	
7. Drink alcohol (e.g., beer, wine, liquor)	*	1.96	
8. Go to Church	*	2.05	
9. Ride around in the car	*	2.05	
10. Play video games		2.08	
11. Talk to my father about what bothers me	*	2.19	
12. Talk to a brother/sister about how I feel	*	2.58	11

* = items which also appear among the bottom 12 coping strategies listed by all Ss from all schools

The findings presented in the preceding discussion and in Tables 18 to 25 suggest very high degrees of similarity in responses to the ACI among many of the sub-groups identified in this study. This view is supported by the calculation of Spearman's correlation coefficients for all possible pairings within each of the dimensions, grade, academic competence, and sex, both in relation to the total sample and in relation to each school treated separately. The results of the relevant Spearman's analyses are presented in Table 26. It is noteworthy that in every cell, as with the corresponding analyses for the AAPI, the correlation coefficient is highly significant with the probability level reaching .000 in every case except one!

TABLE 26

Spearman's Rank Order Correlation Coefficients
for Comparisons of Ss' Responses to the ACI by
Year Level, Academic Competence, and Sex

		ALL SCHLS	WARR. SHS	MARAN. SHS	DIAM. SHS	INDEP L.C.	INDEP B.C.	CATH L.C.	CATH B.C.
A. YEAR LEVELS:									
Yrs 8 & 9	r =	.9638	.8958	.8921	.8380	.9647	.9512	.9038	.8805
Yrs 8 & 10	r =	.9575	.7639	.8954	.9093	.9296	.9051	.9003	.8963
Yrs 8 & 11	r =	.9148	.8207	.8637	.8711	.8810	.9106	.8324	.8531
Yrs 8 & 12	r =	.8965	.7978	.8578	.8432	.8684	.8573	.8468	.7902
Yrs 9 & 10	r =	.9716	.8355	.8555	.9146	.9547	.9173	.9138	.9391
Yrs 9 & 11	r =	.9542	.8537	.8523	.9006	.9012	.9144	.8460	.9276
Yrs 9 & 12	r =	.9431	.8256	.8467	.8622	.9158	.8883	.9064	.9056
Yrs 10 & 11	r =	.9711	.9532	.9137	.9541	.9311	.9396	.8766	.9403
Yrs 10 & 12	r =	.9695	.9066	.9203	.9176	.9383	.9449	.9415	.8852
Yrs 11 & 12	r =	.9699	.9458	.8897	.9319	.9180	.9362	.8811	.9408
B. ACADEMIC COMPETENCE:									
Ex v VG	r =	.9666	.7094	.7187	.8646	.9169	.9053	.8740	.8065
Ex v Good	r =	.9729	.7909	.7562	.8399	.9307	.9007	.8536	.7635
Ex v Av	r =	.9579	.7891	.7755	.8418	.9239	.9174	.7982	.7446
Ex v Bel Av	r =	.8462	.6386	.6688	.5692	.9093	.8301	.4219	.4987
VG v G	r =	.9815	.9136	.9450	.9552	.9579	.9464	.9130	.9549
VG v Av	r =	.9555	.8956	.8891	.9278	.9390	.9401	.8712	.9301
VG v Bel Av	r =	.8440	.7817	.7676	.6664	.9155	.8306	.5704	.7647
G v Av	r =	.9774	.9462	.9397	.9383	.9467	.9707	.9401	.9453
G v Bel Av	r =	.9040	.8219	.8418	.7210	.9609	.9057	.6656	.7949
Av v Bel Av	r =	.9247	.8482	.8953	.7482	.9380	.9230	.6689	.7996
C. SEX:									
M v F	r =	.8967	.8150	.8375	.8381	---	---	---	---

r = Spearman's rank order correlation coefficient.
p = .000 for all cells except the underlined one where p = .001.
Abbreviations in "B" stand for "excellent", "very good", "good", "average", and "below average".
Lowest correlation coefficient in each column for each of categories "A" and "B" is shown in darker type.

While it was possible in analysing the AAPI data to search out significant differences between selected groups, this task proved to be a much more difficult with the data from the ACI. That this should be the case tends to be borne out both by the very high correlation coefficients presented in Table 26 where 147 of the 164 correlation coefficients are higher than the corresponding coefficients in Table 16, and by the fact that on most dimensions fewer significant chi square findings were obtained on the item-by-item analyses of the ACI than was the case with the AAPI. For example, on the year level dimension only 21.1 percent (i.e., 80 out of 378) of the ACI chi square analyses were significant compared with 31.3 percent of the AAPI chi square analyses. On academic competence the ACI figures were 22.8 percent in contrast to 30.9 percent on the AAPI (cf. Tables 17 and 27). On the sex dimension, this trend was reversed with an ACI figure of 19.1 percent replacing the exceptionally low 8.8 percent which had occurred on the AAPI. However, this swing simply brings the ACI findings on the sex dimension into line with the findings on the other two dimensions. It does not indicate (as a very high percentage of significant differences might have done) that the sex dimension is an exciting place to search for significant differences between groups in their coping strategies.

The overwhelming evidence provided by the analyses of the ACI data seems to be that there is a great deal of concurrence among the groups identified in the present study about the sorts of strategies that adolescents in South-East Queensland use in dealing with their problems. Whether focusing on private schools or public schools, single-sex schools or co-educational schools, older secondary students or younger secondary students, more effective students or less effective students, males or females, it can be

TABLE 27

Results of Chi Square Analyses of Each Item on the ACI: Comparisons of Grades Within Schools

	WSHS	MSHS	DSHS	ILC	IBC	CLC	CBC
1. Go along with parents	.1077	.0183	.0009	.0239	.5581	.4403	.2596
2. Read something distract	.4338	.0221	.1422	.2127	.0050	.6369	.1306
3. Be funny/make light	.4258	.1994	.3991	.1720	.7217	.4736	.3436
4. Apologize to people	.2750	.0864	.6958	.2667	.8308	.2037	.5877
5. Listen to music	.4698	.2753	.6100	.6875	.2905	.8985	.0023
6. Talk teacher/counsellor	.1455	.0279	.4789	.3747	.0716	.2972	.2138
7. Eat food	.6015	.0699	.4419	.0860	.0401	.2084	.6036
8. Stay away from home	.4386	.1802	.9876	.1642	.5255	.7478	.3324
9. Use prescribed drugs	.0005	.0980	.0714	.4425	.0865	.3696	.8967
10. Get involved school activ	.2151	.2546	.1780	.0954	.0444	.0065	.1628
11. Shopping: buy things like	.2031	.0195	.0196	.4844	.0129	.5802	.6742
12. Reason parents/compromise	.7772	.1958	.8366	.4218	.2295	.1927	.0036
13. Try to improve myself	.1264	.1876	.8961	.7219	.1518	.7306	.3976
14. Cry	.0033	.0178	.1421	.5110	.0248	.1419	.0213
15. Think good things in life	.0465	.0071	.5240	.8885	.2403	.0593	.2747
16. Time with boy/girlfriend	.1208	.0211	.2251	.2628	.3913	.0143	.3965
17. Ride in car	.0494	.0818	.0090	.0121	.0327	.2695	.4970
18. Say nice things to others	.8817	.0394	.0984	.8913	.1868	.2319	.3165
19. Get angry/ yell at people	.0003	.1925	.1140	.7083	.0626	.3632	.8663
20. Joke/keep sense of humour	.4442	.0736	.0956	.2501	.2139	.8049	.4419
21. Talk minister/priest/rabbi	.0645	.0241	.0729	.5247	.0881	.0368	.2643
22. Complain to family	.2887	.6463	.3433	.4270	.2626	.7733	.2783
23. Go to church	.1257	.4278	.1779	.1059	.3274	.0679	.3908
24. Use non-prescribed drugs	.6616	.0240	.0217	.0090	.0094	.6554	.0263
25. Get more organized	.1051	.3006	.1350	.2722	.3955	.2272	.2717
26. Swear	.3409	.3477	.8915	.2781	.0732	.1599	.0020
27. Work hard on schoolwork	.4703	.2685	.5231	.3933	.4306	.4552	.3690
28. Blame others	.1449	.0362	.2355	.3339	.0101	.2933	.1100
29. Time w. someone care about	.7495	.2412	.5609	.5387	.0676	.3324	.8772
30. Help others solve problems	.1741	.4190	.8570	.2779	.7153	.2926	.0522
31. Talk mother about problems	.0920	.1391	.5708	.0272	.1718	.7955	.1152
32. Try solve problem by self	.0198	.5290	.0195	.0379	.0570	.8633	.0035
33. Work on a hobby	.7965	.0982	.3847	.5485	.3381	.0019	.0020
34. Seek profssnal counselling	.2324	.2225	.2051	.4677	.1375	.1432	.4984
35. Build/maintain friendships	.1281	.0289	.5600	.0112	.0799	.6222	.9154
36. Tell self problem not impt	.1630	.2928	.4396	.3664	.1154	.4294	.2006
37. Go to a movie	.0646	.0332	.7602	.2476	.0033	.1125	.4446
38. Daydream how like things	.7473	.2102	.1984	.3160	.4282	.0724	.9053
39. Talk brother/sister	.2111	.0089	.3114	.0101	.4758	.8401	.8957
40. More time on part-time job	.1439	.0007	.3186	.0002	.1155	.6228	.8422
41. Do things with my family	.1340	.2017	.1989	.0055	.0179	.9082	.0149
42. Smoke	.2947	.5631	.0000	.0010	.4712	.9398	.8559
43. Watch T.V.	.0011	.4018	.1104	.1976	.2829	.4805	.2571
44. Pray	.4526	.1773	.2377	.2842	.1808	.6155	.8380
45. Seek good in diffic sitns	.0495	.0220	.9765	.9717	.1228	.1473	.1140
46. Drink alcohol	.5057	.1982	.0528	.0006	.0004	.1802	.0003
47. Try to make own decisions	.0650	.0167	.2156	.0075	.0112	.2715	.0007
48. Sleep more than normal	.0492	.3595	.8851	.1337	.2301	.5488	.1066
49. Say mean things to people	.5298	.2199	.3607	.5484	.2037	.4352	.8635
50. Talk father about problems	.9585	.3630	.4732	.8398	.0551	.8051	.7838
51. Complain to friends	.2402	.1349	.3536	.0074	.0688	.4670	.5955
52. Talk to a friend	.2068	.6024	.2861	.1395	.0015	.0753	.0433
53. Play video games	.0000	.0073	.0474	.0016	.0009	.0490	.0436
54. Strenuous physical activty	.9391	.8486	.0772	.0625	.1050	.9822	.8855
NUMBER OF SIGNIF. FINDINGS	10	18	7	14	14	5	12

NOTE: Significant findings ($p < .05$) are underlined.

asserted with confidence that their most frequently used coping strategies (out of those listed in the ACI) include listening to music, trying to make their own decisions, trying to solve problems by themselves, building and maintaining friendships, trying to improve themselves, and daydreaming about how they would like things to be. It can also be asserted that their most avoided strategies (again from those listed) include talking to a minister, priest or rabbi, seeking professional counselling, and using drugs.

CHAPTER 6: DISCUSSION

The empirical findings reported in Tables 5 to 17 deal directly with the first three research questions:

1. To what extent is stress an important issue in adolescent development in Australia?
2. What are the major causes of stress among Australian adolescents?
3. Are there identifiable groups of Australian adolescents who are more stressed than others?

Tables 18 to 26 present background information pertaining to the fourth research question:

4. What steps can be taken: (a) to reduce environmental stressors for Australian adolescents; and (b) to help Australian adolescents to cope with stress more effectively?

This final question provides the major focus for the present chapter which seeks, through a consideration of the literatures relating to schooling for adolescents and adolescent coping, to discuss the implications of the findings presented in Chapter 5.

The data presented in Chapter 5 suggest: (1) that adolescent stress is an issue which is worthy of research in the Australian context (see pp. 93 to 98); (2) that the major problems identified by the 1664 adolescents who participated in the present study generally relate to the competitive and academic nature of secondary schooling in Queensland (see pp. 99 to 107) rather than such difficulties as the peer relationships, personal development, and substance abuse (see pp. 108 to 115) which are highlighted in so much of the literature on adolescent development; and (3) that there is a considerable degree of consistency across schools, grades, achievement levels, and sexes both in what adolescents identify as their major problems (see pp. 99 to 124) and in the strategies they employ to deal with those problems (see pp. 124 to 145).

The finding that schooling embraces many of the major stressors for Australian adolescents is supported not only by the literature reviewed in Chapter 2 (see pp. 61 to 64) but also by the recent work of Finlayson, Reynolds, Rob, and Muir (1987) who found that the most frequent reason why both male and female students feel "down and low" is schoolwork, and Eckersley (1988) who identifies as sources of increased psychological stress among students: growing pressures at school; increasing competition for places in tertiary institutions; disenchantment with school values; discontentment with a curriculum which is boring, irrelevant, and too academic; and dissatisfaction not only with student-teacher relationships but also with the authoritarian nature of school administrators:

> The most obvious pressures of education are those of schoolwork and passing exams. Exams rank amongst children's most stressful experiences. As more students stay on at school and educational qualifications become more important in getting work, then more students become exposed to these pressures, and the pressures themselves will become more intense as education becomes more competitive. The result is that more students are likely to suffer psychologically, and to suffer more. (Eckersley, 1988, p.26).

The findings of the present study should not be interpreted as suggesting that schooling is universally stressful for all Australian adolescents. Although there appears to have been a great deal of consistency among groups in their overall responses to the AAPI and the ACI, the data also indicate many variations in stress levels among individuals within groups. This is seen not only in the full range of GHQ-12 scores obtained by the present Ss (see Table 5), but also in the extensive range of responses which even relatively small groups of Ss (e.g., Ss at a particular year level in a particular school) gave to almost every item on the AAPI and the ACI. This point is illustrated in Table 27 which features representative small-group responses from each of the seven schools to the four biggest and the three smallest problems identified by the total sample of 1664 Ss. It is on these extreme items that Ss might most be expected to cluster towards one end

TABLE 28

Representative Year Level Responses to the Four Biggest and Three Smallest Problems Identified by the Total Sample

PROBLEM & RANK ORDER	SCHOOL	YEAR LEVEL	PROBLEM RATINGS 1	2	3	4	5	6	7	SAMPLE SIZE
Boring lessons (1)	WSHS	8	9	7	13	0	16	13	42	45
		9	11	8	34	18	3	8	18	38
		10	8	11	18	11	18	16	18	38
		11	7	6	15	21	15	8	27	71
		12	3	0	13	17	7	20	40	30
No say for students in how the school is run (2)	MSHS	8	4	6	8	12	18	12	39	49
		9	9	20	11	9	11	5	34	44
		10	3	9	5	14	17	7	45	58
		11	10	15	18	15	8	10	25	40
		12	21	15	19	21	4	8	13	53
Studying for examinations (3)	DSHS	8	13	26	28	11	13	0	9	46
		9	20	15	15	20	20	10	2	41
		10	2	12	18	18	25	12	14	51
		11	2	4	17	21	23	9	23	47
		12	2	5	19	10	19	24	21	42
Worry about getting job on leaving school (4)	ILC	8	12	22	18	17	15	3	13	60
		9	17	10	12	17	18	18	8	60
		10	7	8	8	20	12	17	28	60
		11	10	10	8	18	7	17	30	60
		12	5	8	7	10	17	15	38	60
Developing more quickly than my friends (66)	IBC	8	50	18	13	8	2	3	5	60
		9	73	7	7	10	0	2	2	60
		10	40	20	17	15	3	0	5	60
		11	60	25	7	5	3	0	0	60
		12	73	10	7	0	3	2	5	60
Abuse of such substances as drugs, alcohol, and cigarettes (67)	CLC	8	85	4	0	4	8	0	0	26
		9	62	3	7	14	0	7	7	29
		10	57	10	0	10	7	7	10	30
		11	63	3	7	7	10	7	3	30
		12	86	8	0	0	0	3	3	36
Going to the wrong class (68)	CBC	8	77	10	2	8	2	0	2	52
		9	60	13	5	13	3	3	5	40
		10	82	9	7	2	0	0	0	44
		11	78	2	8	4	4	0	4	50
		12	76	12	9	0	3	0	0	33

Notes: 1. Ratings range from "1" meaning "No problem at all" to "7" meaning "A very big problem".
2. Numbers in the body of the table indicate the percentages of Ss choosing the various ratings.
3. Percentages, rounded to the nearest whole number, are used to facilitate comparisons of different sized samples.

of the response continuum. Such clustering is evident, particularly on the last three items. Yet, in spite of this, 221, or 90 per cent, of the 245 cells in Table 27 attracted S responses. These results are not exceptional. Consequently an important inference to be drawn from the present study is that teachers must never make unsubstantiated assumptions about what might be troubling a particular student. What most students generally regard as a relatively minor problem may currently be perceived as a major problem by a significant minority of Ss.

The range of individual differences in stress levels is also illustrated (p. 94) in the contrast between: (a) the 39.7 per cent of the present Ss whose GHQ-12 scores were higher than the mean stress scores of Banks' most stressed groups of British adolescents; and (b) the 25.7 per cent of present Ss whose GHQ-12 scores were lower than the mean stress scores for Banks' least stressed groups (Banks, et al., 1980; Banks & Jackson, 1982). Unfortunately, the GHQ-12 does not provide standardized cutoff points for identifying highly stressed or exceptionally unstressed Ss. The instrument is intended for use only as a screening device, and individual researchers are left to establish their own cutoffs. Nevertheless the range of scores obtained on both the GHQ-12 and the first 68 items of the AAPI suggests that, although there may be many Australian adolescents who generally do not find their secondary schooling particularly stressful, there are also many who do. Hence the need (Question 4) to consider steps to reduce environmental stressors for Australian adolescents and to help them to cope with stress more effectively.

A. REDUCING ENVIRONMENTAL STRESSORS FOR AUSTRALIAN ADOLESCENTS:

As indicated in Chapter 5, there is remarkably close agreement among groups about which coping strategies the Ss in the present study most frequently use (see pp. 124-125) and which they most frequently avoid (see p.133) when dealing with the problems of adolescence. How adaptive or maladaptive are these various strategies? A review of the literature on coping with stress suggests that, used appropriately, there is a place for many of these strategies in the adaptive repertoires of adolescents. For example, listening to music and watching television are frequently used coping strategies which clearly fit into Mobily's (1982) category of "non-vigorous recreational activities". Mobily refers to research which demonstrates the usefulness of such activities in reducing stress and anxiety. Several of the frequently used coping strategies deal with the desire to achieve autonomy, independence, and a sense of control over one's own life. Examples of such strategies include "Trying to make one's own decisions", "Seeking to handle one's problems by oneself", "Attempting to improve oneself", and "Endeavouring to establish one's priorities". The findings of Lazarus (1966), Bandura (1982), Kobasa (1979), Matheny and Cupp (1983), and Fisher (1984) all suggest that "a real or imagined sense of control over self or environment" - achieved, perhaps, through such strategies as those listed in the previous sentence - "is a powerful stress-reducing mechanism" (Girdano & Everly, 1986, p.99). Similar positive outcomes are attributable to other frequently used strategies, such as the desire to build and maintain friendships and to spend time with people one cares about. Thoits (1986), Sandler (1980), and Newman (1981) all cite research which indicates that social support of this nature helps people to cope more effectively with stressful life circumstances.

Faced with the preceding discussion, it seems likely that most open-minded parents, educators, and youth workers would endorse the discriminating use by adolescents of the majority of the coping strategies which appear in the present study's 'most frequently used' list. In implementing such strategies, generally approved adaptive behaviours might well include: using leisure activities in moderation and at appropriate times; exercising sensibly increasing amounts of initiative and independence when dealing with the developmental tasks of adolescence (Havighurst, 1972; Manaster, 1977); and taking cognizance of the perspectives of approved age-mates as well as parents when seeking solutions to emerging problems.

Among the 'least frequently used' coping strategies identified in the present study, there are several (e.g., "Using drugs not prescribed by a doctor"; "Smoking"; and "Drinking alcohol") whose lowly ratings probably meet the approval of the majority of people who are concerned about the well-being of adolescents. However, there are also some infrequently used strategies (e.g., "Talking to a minister, priest, or rabbi"; "Seeking professional counselling"; "Talking to a teacher or counsellor at school"; and "Talking to one's father") whose avoidance must be of concern because of their potentially adaptive outcomes. Why do adolescents seem to be disinclined to discuss their problems with adults, and, in particular, in the context of the present study, what is it about teacher/counsellor behaviour which might lead adolescents to avoid seeking the help of such people?

Newman (1981) provides part of the answer when he describes some of the barriers to good teacher-student relationships which characterize many secondary schools:

> If students are to perceive integration between their interests and their life in school, they must trust their teachers (Bidwell, 1965, 1970). In the comprehensive high school many aspects of the teachers' role undermine student trust: compulsory assignment of students to teachers, large

> classes, the conflict between teachers' role as helpers versus judgmental certifiers of student competence, the teachers' ultimate responsibility to school superiors rather than to students, and, most importantly, teachers' transient relationships with students for the sole purpose of teaching a single subject. This limited, specialized relationship creates barriers to understanding one another as individuals and to developing affiliative bonds. (Newman, 1981, p.553).

That such barriers exist for many students is confirmed by the Australian research of Collins and Hughes (1982) whose representative sample of 20-year-olds looked back on their secondary schooling with "general distaste" and expressed, among many other concerns, "indignation at the undermining of self-respect and self-confidence" and "the feeling that many teachers were uninterested in students as persons" (p.18).

Another point to consider is Mitchell's (1979) claim that many adults - teachers as well as parents would be included - do not really like adolescents. He argues that adults feel threatened by such stereotypes of youth as vitality, spontaneity, undisciplined energy, troublesomeness, disrespect for achievement and status, and propensity to flaunt conventions. Adolescents are viewed as a nuisance, an inconvenience, and a menace who are best isolated from the community-at-large until such time as they magically attain adult status. Mitchell is probably deliberately overstating his case in order to challenge his adult readers to reassess their relationships with adolescents. However, he does draw on the work of a number of very respected writers (e.g., Menninger, 1968; Redl, 1969; Friedenberg, 1965) to support his assertions, and his central theme that adults frequently treat adolescents badly provides further explanation for the unwillingness of many adolescents to communicate with adults.

To the extent that the claims of Newman (1981), Collins and Hughes (1982), and Mitchell (1979) are true, it is no wonder that adolescents tend to avoid sharing

confidences with adults in general and teachers in particular, seeking instead the more supportive, less threatening company of their own age mates (Thoits, 1986). However, not all adults or teachers are avoided. Many seem to have those special qualities which the extensive literature dealing with the interpersonal skills of effective teachers generally associates with good teachers. The challenge is for all teachers to strive to achieve such characteristics: e.g., warmth, empathy, respect, genuineness, concreteness, assertiveness, and immediacy (Gray & Gerrard, 1977); honesty, tolerance, and a sense of humour (Dacey, 1982); friendliness, fairness, and acceptance of students as people (ACT Schools Authority, 1983); skills in personal and interpersonal problem solving, confrontation, collaborative conflict resolution, appropriate self-disclosure, and providing constructive feedback (Adie, 1988); and skills in communication, including being an effective listener (Anderson, Saltet, & Vervoorn, 1980; Dacey, 1982; Power, 1984; Adie, 1988; ACT Schools Authority, 1983)....

The list of desirable interpersonal qualities seems almost endless, and perhaps overwhelming for teachers who are looking for a starting point for improving their interpersonal skills. However, useful encapsulations of such qualities are offered through the work of such researchers as Ryans (1960, 1961) and Kleinfeld (1972). Following factor analysis of data gathered from teachers and students throughout the United States, Ryans reduces 343 descriptions of effective teacher behaviour to just three underlying dimensions: warmth, responsibility, and stimulation. Kleinfeld's model is even more concise. Her research with Year 9 students in Alaska suggests that the essential distinguishing characteristics of effective teachers are warmth and demandingness.

It is noteworthy that Ryans and Kleinfeld both identify warmth as one of the key dimensions of an effective teacher. The present writer's own research on effective teaching, conducted among Aboriginal and non-Aboriginal adolescents in Brisbane, Australia, also confirms the importance of teacher warmth in creating a positive learning environment (Fanshawe, 1978). A review of the literature on teacher effectiveness indicates that warmth is one of the most extensively endorsed characteristics of effective teachers (Adie, 1988). Since warmth subsumes many of the interpersonal qualities listed earlier (e.g., friendliness, acceptance, empathy, respect), the teacher who desires to build better relationships with students and who is confused by the plethora of personal qualities which need to be developed, might well be advised to focus initially on Ryans' and Kleinfeld's models, paying particular attention to their warmth dimensions.

The preceding discussion focuses on the interpersonal skills which teachers need to develop in order to enhance their relationships with their students and thus reduce at least one potential environmental stressor for Australian adolescents. However, there are many other aspects of secondary schooling in Australia (e.g., educational goals, curriculum, school structure, school climate, and government policies on education) where appropriate changes would also help to alleviate student stress. The following discussion expands on this view.

As stated earlier, the biggest problems identified by the participants in the present study generally relate to the competitive and academic nature of schooling (see p.99). In 1989, even after a decade or more of increasing concern about the inappropriateness of a narrowly academic curriculum (Middleton, 1982; Ashenden, 1983; Ashenden, 1984; Connell, Dowsett, Kessler, & Ashenden, 1984; Poole, 1987a, 1987b), secondary schooling in Australia continues to be dominated by the requirements for entry into tertiary

education. As early as 1980, the Commonwealth Schools Commission's publication, "Schooling for 15 and 16 Year-Olds", pointed out that increasing retention rates in the upper secondary school were changing the school population to such a degree that a totally academic curriculum was no longer appropriate. Seven years later the same Commission reports that "higher education institutions (still) have a powerful and frequently negative effect on secondary schools", and that "tertiary selection requirements tend to narrow curriculum and teaching and learning methods, and to encourage premature specialisation." (Commonwealth Schools Commission, 1987, p.22). Such perceptions of secondary education in Australia are confirmed by Brunner (1982) who is concerned about the inadequate schooling received by the large proportion of secondary students who will never engage in tertiary studies; Collins and Hughes (1982) whose 20-year-old Ss mostly stated that the traditional academic subjects which they had studied in school were either meaningless or of value only for the extrinsic reason of achieving tertiary entry; Helm (1985) who describes the sense of alienation which often results when students select tertiary entrance subjects which are inappropriate to their needs and interests; Poole (1987a) who reports that Australian secondary students have been highly critical of the limited subject choices available to them; Hughes (1987) who points to the need for a less rigid separation of 'academic' and 'non-academic' students; and Anderson, Saltet, and Vervoorn (1980) who express concern that, even when wide choices are offered to secondary students, as is the case in Canberra's senior colleges, large numbers of students unrealistically choose tertiary-oriented courses in the vague hope of keeping their options alive.

Some of the alternatives to the competitive academic curriculum which might help to create a less stressful school environment for many students - providing alternatives are appropriately matched with students

(Newman, 1981; Newman & Beehr, 1979) - include: preparing students for the world of work (Brunner, 1982; Poole, 1983; Poole, 1987a; Walker, 1987); providing training in life skills (Collins & Hughes, 1982; Commonwealth Schools Commission, 1987); catering for the developmental needs of adolescents (Commonwealth Schools Commission, 1980; Poole, 1983; Bella, 1984; Power, 1984; Ewen, 1987; Finlayson, Reynolds, Rob, & Muir, 1987; Poole, 1987a); using education as an agent for social change (Collins & Hughes, 1982; Kemmis, Cole & Suggett, 1983); and providing a general, well-balanced, broadly-based education which takes account of all of the other curriculum orientations, including the academic (Helm, 1985; Commonwealth Schools Commission, 1987; Hughes, 1987).

Of course, there is a major difficulty in matching students with environments. In any school or system which commits itself to just one curriculum orientation (other than a general education) matching will probably not occur for large numbers of students. For example, in the same way that many practically-oriented students currently feel ill-at-ease in academically-oriented programs, so it is likely that academically-oriented students will feel dissatisfied in schools which specialize only in vocational training. From the point of view of seeking to alleviate pressure on students, diversity of curriculum offerings is a necessity (Poole, 1987a), with students exercising the power to choose and change according to their own perceptions of which directions best meet their needs and interests. Diversity would seem to be most achievable through the sort of general curriculum which, according to Tansky (1985), the Queensland Education Department has been seeking to implement for more than a decade:

> Since 1975, the Queensland Department of Education has been concerned to initiate curriculum changes in secondary school studies which are responsive to the broader societal, economic and technological changes that have taken place over the past decade. (Tansky, 1985, p.3).

Tansky reports that the Queensland Education Department's response to the increasing number and diversity of students seeking post-compulsory education has been to foster curriculum changes aimed at:

* providing a balanced general education for all secondary students;
* relating secondary studies to technological change and current societal issues;
* widening the range of educational pursuits available to all students;
* postponing educational decisions which have irreversible implications for career and further education paths;
* providing increased access to secondary and further education for all students; and
* providing appropriate accreditation which is a useful record for future employment purposes. (Tansky, 1985, p.3).

Many other writers also endorse a broad perspective on desirable directions for secondary education in Australia. For example, the Commonwealth Schools Commission (1980) argues for the development of adaptive schools, catering for the needs of all students through a comprehensive education which offers a variety of course options ranging from the practical to the academic. Collins and Hughes (1982) report that the majority of their respondents (mainly employers, tertiary staff, employees, and students) favoured an all-round, progressive, general education as the best preparation for life after school. The Tasmanian Education Next Decade (TEND) Committee (1978) envisages a secondary education in which all students develop their skills of communicating and problem solving; develop a personal set of values; become politically, economically and socially aware; develop the confidence and ability to participate in decision making; and participate in courses which are personally relevant and stimulating (Brunner, 1982). Wilson and Wyn (1987) advocate flexibility for schools in tailoring curriculums to suit local conditions. Finally, on the basis of 22 studies conducted in Australia between the mid-seventies and the mid-eighties, Hughes (1987) reports "a surprisingly high level of agreement" among students, parents, and teachers that

secondary education should be broad in scope, covering such areas as literacy and numeracy, health education, personal awareness, social awareness, practical knowledge and skills, socialization, the traditional academic subjects, and aesthetic appreciation and involvement.

Such wide-ranging orientations should enhance the school's ability to cater for the needs and interests of adolescents, and consequently to ameliorate some of the problems identified in the present study. However, there seems to be an obvious mismatch between the ideals and the realities. In the Queensland context, the officially espoused ideal is a general education, but the reality is that the competitive academic curriculum is inordinately dominant (Coyne, 1986; Carpenter, 1986; Mishinski, 1986). A possible solution is suggested by the McGaw Working Party (1984) whose recommendations about changes to tertiary entrance procedures were implemented in Western Australia in 1985. The goal was to ensure that the preparation and selection of students for tertiary courses would exercise a less dominant influence over the curriculum of the upper secondary school than had previously been the case. The solution was to give students an individual choice of taking either three, four, or five matriculation subjects in their final year. A student's tertiary entrance score would be the best possible score obtained from combining the results of at least three of these subjects, providing that at least one humanities/social sciences subject and one science/mathematics subject were included. As a result of this proposal, it was envisaged that many students would be able to undertake a greater breadth of studies while keeping open the option of a tertiary education. However, in view of the high status attached to tertiary studies and the frequent choice of tertiary-oriented subjects by students whose interests essentially lie in other directions (Anderson, Saltet, & Vervoorn, 1980), one wonders about the extent to which students might abuse the McGaw system: for example, by working very hard at their three selected matriculation

subjects while virtually ignoring their other supposedly broadening and interesting subjects. Concerns of this nature are also expressed by Helm (1985). Nevertheless the McGaw system does represent a realistic attempt to make the final years of secondary schooling more relevant and less traumatic for a greater number of students by addressing some of the problems raised by the Ss in the present study.

Basing their arguments on Kobasa's (1979; 1982) hardiness theory, Bandura's (1982) self-efficacy theory, and de Charms' (1968) locus of control theory, Girdano and Everly (1986) conclude that "a real or imagined sense of control over self or environment is a powerful stress-reducing mechanism" (p.99). Similarly, Baron and Rodin (1978) associate a personal sense of control with greater happiness, better performance, and lower vulnerability to stress. In view of these findings, it would seem important for schools to create climates which help students to develop the sense of personal control and involvement which can help to insulate them from becoming victims of stress. Several Australian writers and researchers point to the desirability of such environments. For example, Wilson and Wyn (1987) refer to the importance of helping students to develop a sense of "control over their life circumstances" (p.127). The Schools Commission (198?) suggests that "schools should encourage participation by students in all relevant decisions" (p.17), helping them to develop "confidence in (their) self-worth and right to be involved and respected" (p.15). Elsewhere, the Schools Commission (1980) sets as one of its educational goals for secondary students "confidence in their power to influence events affecting their lives" (p.5). From the students' perspective, Poole (1983) reports that students question "blind and dogmatic authoritarianism" and want "a say in the decision-making processes in schools" (pp.34-35), while Collins & Hughes (1982) refer to resentment at lack of

freedom, and Anderson, Saltet and Vervoorn (1980) discover a preference for schools which encourage students to exercise "general control over their own affairs" (p.136).

A very promising innovation which seems to offer Australian secondary students the kind of personal control, involvement, and consequent relief from stress discussed in the previous paragraph has been the introduction of senior colleges. These institutions generally cater for students who are enrolled in the last two, non-compulsory years of secondary schooling. They provide a wide range of courses oriented towards life after school (Brunner, 1982), including tertiary-oriented programs, vocational preparation, and combinations of these two, as well as college-developed subjects (Mishinski, 1987). Students' reactions to senior colleges are generally very positive. They respond favourably to having a wide choice of interesting and relevant subjects; being treated as adults; and experiencing warm, friendly relationships with their teachers. In comparison with regular high schools, the climate of senior colleges is generally less authoritarian and more oriented towards personal independence, responsibility, and decision-making (Anderson, et al., 1980):

> The accent in colleges (is) on freedom, self-development, self-motivation, self-discipline, and student-management of student affairs. With students encouraged in this way to accept responsibility for their own actions, the custodial functions of such an institution (are) kept to a minimum. (Campbell, 1973, cited by Anderson, Saltet, & Vervoorn, 1980).

In Queensland, financial constraints (Killen, 1989) have so far limited the number of public senior colleges to just three - located at Hervey Bay, Alexandra Hills, and South-West Queensland. The positive responses of students, teachers, and parents to these colleges (Mishinski, 1987) - along with positive responses to senior colleges in Britain, Tasmania, and Canberra (Anderson, Saltet, & Vervoorn, 1980;

Brunner, 1982) - suggest that pressure needs to be exerted on the Queensland Government to give higher priority to expanding the senior college network.

While enthusing about the capacity of senior colleges to meet the needs of older adolescents and to address the sorts of school-related problems identified by adolescents in the present study, one must not forget that a commitment to the wholesale expansion of senior colleges almost certainly also implies an acceptance of increasing numbers of junior high or middle schools. Considerable care needs to be taken to ensure that such schools effectively address the needs and problems of younger adolescents, especially in view of the inadequacies attributed to them by some writers. For example, Collins and Hughes (1982) suggest that:

> Changes in junior secondary schooling are urgent. There is curriculum failure on a grand scale: the goals which those who know secondary schools best regard as most important are, by and large, not met. There is organizational failure: the basic developmental needs of youth growing towards adulthood cannot be catered for in the present system. (Collins & Hughes, 1982, p.49).

According to Anderson, Saltet, and Vervoorn (1980), following the formation of senior colleges for Canberra's Year 11 and 12 students, and junior high schools for Year 7 to 10 students, the Year 10 students surveyed were more critical and less satisfied with school than were the students in the higher grades. Although Anderson and his associates acknowledge a possible developmental explanation for this finding, namely that Year 10 students might be at the most difficult stage of their adolescence, they also present a more likely cause of the discontent within Canberra's junior high schools when they reveal that the philosophy, objectives, and curriculum of these schools had been less thoroughly and less appropriately conceptualized than had been the case in the senior colleges. Where junior high school students were indicating, along with the students in the senior colleges, that they would like "more freedom and responsibility, and more open, informal

relations with teachers" (Anderson, et al., 1980, p.130), they perceived instead that control was in the hands of the teachers who forced them to follow a prescribed academic curriculum.

In contrast to the preceding negative views of junior high schools, the developmentally-based arguments of several other Australian writers (e.g., Bella, 1984; Power, 1984; Cotterell, 1979, 1982; Collins & Hughes, 1982; Queensland Department of Education, 1985) encourage optimism about the potential of junior high schools to make a positive contribution towards better schooling for early adolescents. Bella's arguments for separate junior high or middle schools are based on the special needs and interests of younger adolescents whose entry into a period of rapid physical and intellectual growth significantly distinguishes them not only from children but also from older adolescents (Bella, 1984; Cotterell, 1989).

Further support for junior high schools can also be inferred from the work of Power (1984) who points to the developmentally inappropriate timing of a transition from primary to secondary schooling at around age 12 or 13 - as currently happens in many states in Australia - at a time of rapid personal change. Although Power, like Cotterell (1979, 1982), finds that the majority of children adapt satisfactorily to their new high schools, he also expresses concern about the well-being of those children for whom "the changes are abrupt and overwhelming, creating unnecessary stress and inhibiting development" (p.27).

An inference which can be drawn from Power's and Cotterell's research, and also from the work of Anderson and his associates, is that there is a need for carefully conceived junior high or middle schools (Collins & Hughes, 1982) which are able to deal effectively with the developmental, transitional, and school-related problems of early adolescents. Such schools might not start as early as

the Year 4 transition suggested in Queensland by the Department of Education (1985), but they would cover a large enough grade span (perhaps Years 6 to 10?) to enable pre-pubescents to become fully settled in their new schools prior to having to deal with the onset of puberty. Taking account of Bella's (1984) synthesis of the work of Alexander (1971), Gibson (1978) and Wiles and Bondi (1981), the junior high schools most likely to achieve success are those in which the philosophy and objectives are based on the unique characteristics of the student population; in which a general education, embracing the intellectual, social, emotional, and physical needs of the students is provided in a warm, open, and supportive environment; and in which flexible programming enables teachers to cater for the individual interests and abilities of their students (Bella, 1984).

In searching for possible ways of reducing environmental stressors for secondary students in Australia, attention has focused mainly on the interpersonal qualities of effective teachers, the need for appropriate educational goals and programs, and the desirability of a general restructuring of secondary education based around senior colleges and junior high schools. There are, of course, many other areas where changes could be made to bring about a better, less stressful educational environment for adolescents. One such area is government policy. Through their decisions about educational funding, both state and federal governments have a major impact on such stress-related factors as: student-teacher ratio; the amount of time teachers are able to commit to working with individual students and preparing interesting and relevant lessons; the implementation of major innovations, such as senior colleges and junior high schools; and the number of student places available in tertiary institutions. This last item appears to be particularly important for the many Ss in the present study who expressed concern about tertiary entrance (see Table 9).

In view of the slowness of the Queensland government to expand the number of senior colleges in this state, it is significant that the latest report of the Commonwealth Grants Commission indicates that Queensland has the lowest per capita spending on education of any state in Australia: $546.69 per head of population in 1987/88 compared with the national average of $609.42 (Killen, 1989). The implication of these figures, according to Killen, is that if Queensland were to raise its educational spending simply to the level of the current national average, an additional $170 million per year would be available to address the sorts of problems discussed in the previous paragraph. Imagine the educational changes which could be implemented if governments across Australia were to lift their commitment to education from the current ratio of 6.0 percent of Gross National Product to the 9.1 percent allocated in Sweden, the 8.1 percent in Norway, or the 7.7 percent in Canada (Kurian, 1988). There are few problems in the education of adolescents which could not be ameliorated if sufficient money was made available!

B. HELPING AUSTRALIAN ADOLESCENTS TO COPE WITH STRESS MORE EFFECTIVELY:

While it is of vital importance to seek ways of turning secondary schools into more positive, less stressful environments which facilitate the total development of the adolescent, it is also very important to ensure that the adolescents who attend these institutions develop effective ways of coping with the attendant stress. The skills developed will be useful not only in the context of the school but also in the context of life in general, both now and in the future.

An obvious way to improve the coping skills of adolescents is to give actual instruction about the theory and nature of stress (Youngs, 1986; Parkinson, 1986;

Humphrey, 1984; Brown & Lawton, 1986) and how to cope with stress (Thoits, 1986; Stevens & Pihl, 1983; Hughes & Boothroyd, 1985). A difficulty for teachers, in view of the diversity of theoretical and practical positions available, is to choose an appropriate approach to follow. For example, should one follow the Selye-based stress-reduction program developed by Humphrey (1984), the social support approach to coping emphasized by Thoits (1986), or the coping-skills-building program developed by Stevens and Pihl (1983)? Perhaps attention should be focussed on relatively brief programs such as the two-hour stress management package which was developed in Queensland by Parkinson (1986) and draws from a wide variety of perspectives on stress and coping, including Selye's (1976) physiological orientation, Girdano & Everly's (1979) holistic orientation, Centi's (1981) emphasis on self-esteem development, and Bolton's (1979) focus on the growth of interpersonal skills.

In accordance with the eclectic stance on stress adopted in the present paper (see pp. 46-50), it would seem desirable for secondary students to study not just one of the kinds of orientations represented in the previous paragraph, but as wide a range of ideas as possible relating to stress and coping, perhaps working within a similar framework to the one outlined in Figure 1 (see p.19) and detailed in Chapter 2. Students would then be able to select and adapt into their own systems of thinking and behaving the coping strategies and styles which best merge with their own views of themselves and the world.

In developing a stress management program for secondary students, consideration needs to be given not only to the content and instructional processes of such programs but also to such practical issues as: the amount of time schools are prepared to commit to stress management programs, either within the formal instructional program or through out-of-class activities; whether stress management programs should be intensive and/or ongoing; the

availability of teachers qualified to conduct such programs; the motivation of students to be involved in such programs; and whether such programs should be optional or compulsory. The view taken in the present discussion is that these sorts of organizational issues are best addressed by schools on an individual basis, taking account of the unique circumstances of the school and the population it serves. Since the emphasis in this section is on content and process issues, not a lot of attention is paid to the organizational issues, except to reiterate that stress management should be taught in secondary schools, and to suggest in rather general terms that one way of fitting stress management into an already crowded secondary program would be to incorporate it into flexibly structured, regularly conducted pastoral care classes which were held at least once a week and which covered a wide range of issues relating to adolescent development.

In developing a stress management program for secondary students, prescriptive, non-theory-based, "cookbook" ideas about coping need to be treated with suspicion. However, where a coping strategy is found to have a strong theoretical and/or research base, and to be capable of standing up to academic scrutiny, it would seem to have fulfilled at least some of the basic requirements for inclusion in a stress management program. Examples of coping orientations which seem to meet such requirements include several closely linked stances which emphasize the importance of being positive: Kobasa's (1979) hardiness orientation, Bandura's (1982) self-efficacy orientation, and Rotter's (1966) and de Charms' (1968) locus of control orientation. Other important coping approaches which will be considered in the following discussion include the social support orientation (Thoits, 1986; Sandler, 1980) and the interpersonal skills orientation (Adler, Rosenfeld, & Towne, 1986; Pfeiffer, 1983; Nelson-Jones, 1986; Adie, 1988).

Hardiness comprises commitment, challenge, and control (see p.43). It embraces both self-efficacy theory (Bandura, 1982; 1986) and locus of control theory (Rotter, 1966; de Charms, 1968) (see p.45) and is discussed simultaneously with these concepts in this section. People who are strong in hardiness tend to be characterized by cognitive flexibility, tolerance of ambiguity, and feelings of involvement in what they are doing. They exude self-confidence and "psychological resiliency" (Shaffer, 1982), and have a clear sense of their own values, goals, and capabilities. They seek to interact proactively with their environment, regarding change as an opportunity to grow, and believing that they have a strong role to play in determining outcomes (Kobasa, 1982). In contrast, people who lack hardiness tend to be passive rather than active. They perceive themselves negatively, feeling alienated, threatened by change, and unable to exert any real influence over the circumstances in which they find themselves (Kobasa, 1982).

According to the findings of several writers discussed in the previous section (e.g., Girdano and Everly, 1986; Baron and Rodin, 1978; Wilson and Wyn, 1987; Commonwealth Schools Commission, 1980, 1987; Poole, 1983), enhancing students' hardiness, self-efficacy, self-esteem, and sense of personal control provides them with a powerful mechanism for coping with stress. It follows that attempts at helping adolescents to improve their coping skills should include ways to help them develop the kinds of positive attitudes and habits which were associated with hardiness in the previous paragraph. Practical ideas about how to do this are incorporated into many of the coping skills programs described in the stress literature. For example, Parkinson's (1986) program includes segments on "thinking positively about ourselves and about others" (p.13), cognitive restructuring, realistic goal setting, and selecting priorities. Blom, Cheney, and Snoddy (1986) suggest strategies for boosting self-esteem and developing internal

locus of control. Youngs (1985) and Girdano and Everly (1986) also outline strategies for enhancing self-esteem, while Humphrey (1984) advocates self-recognition following worthwhile accomplishment. Finally, Hughes and Boothroyd's (1985) guidelines for reducing stress deal with how to change one's negative beliefs about oneself and one's environment, finding an aim in life, developing a belief in one's power to make worthwhile decisions and exercise control over one's life, becoming less dependent and more self-confident, and developing greater flexibility.

It is noteworthy that many of the most frequently used coping strategies identified in the present study relate to the hardiness/self-efficacy/locus of control orientation. For example, the top twelve coping responses (see p.125) include such positive, resilient, proactive behaviours as "Trying to make my own decisions", "Trying on my own to figure out how to deal with my problems", "Trying to improve myself", "Trying to get more organized and sort out my priorities", and "Trying to think of the good things in my life". In view of the stress-reducing effects attributed to hardy behaviour (Girdano & Everly, 1986), an important role for teachers seeking to promote effective coping would be to encourage students to continue their pursuit of these sorts of behaviours.

The fourth most frequently used coping strategy identified in the present study by all 1664 Ss combined is "Trying to keep up friendships and making new friends" (see p.125). This strategy is actually ranked third by Year 8 and 9 Ss, but only fifth by Year 10 and 11 Ss and sixth by Year 12 Ss (see Table 19). Perhaps these findings tend to reflect, just a little, the claims made by many developmental writers (e.g., Erikson, 1963; Dacey, 1982; Fuhrmann, 1986) that as teenagers progress through adolescence, they become less reliant on the opinions of the wider peer group in seeking solutions to their problems, and more oriented towards seeking the support of a smaller

number of close friends. However, the differences in ratings among the various grade levels on this social support item are so small that they probably have little real significance. The important finding is that on a 54-item scale, the Ss from all five grade levels ranked "Trying to keep up friendships and making new friends" among their top six coping strategies. In other words, friendship seems to be an important mechanism for older as well as younger adolescents in seeking to cope with their problems. This view is compatible with Thoits' (1986) statement about the importance of social support for all age groups:

> Considerable research now indicates that social support reduces, or buffers, the adverse psychological impacts of exposure to stressful life events and ongoing life strains (Cohen & Wills, 1985; Kessler & McLeod, 1985; Turner, 1983). Relationships with others, especially with intimates or confidants, can significantly lower the risk of psychological disturbance in response to stress exposure. (Thoits, 1986, p.416).

Thoits argues that the most effective social support when dealing with problems is likely to come from "socially similar others who have faced and are facing the same stressors" (Thoits, 1986, p.420). An important implication of this statement is that adolescents are likely to find networks of friends very helpful - both emotionally and in finding solutions - as together they confront the shared challenges of schooling and adolescence. The existence and development of peer networks should be acknowledged and encouraged by teachers who wish to enhance the coping abilities of their students.

Thoits' (1986) views about the importance of social support in dealing with stress are supported by many other writers. For example, Sandler (1980) associates with social support such positive stress-reducing outcomes as feeling that one is loved and esteemed, and sensing that one "belongs to a network of communication and mutual obligation" (p.43). The work of Pearlin, Lieberman, Menaghan, and Mullan (1981), Brown (1979), and Brown and

Harris (1978) suggests a causative link between social support and positive self-esteem, a personal sense of control, and subsequent reductions in stress. Raphael (1985) identifies social support as one of the factors which may mitigate against feelings of vulnerability. Finally, the Queensland Education Department (1988) indicates that "relationships with others can provide support, reassurance and help" (p.3).

Practical perspectives on facilitating the development of social support and positive peer relationships among students are presented by Humphrey (1984) who stresses the value of talking about one's problems with people one trusts; Thoits (1986) whose coping assistance techniques (e.g., helping to solve a problem through direct action; helping to reinterpret situations so they seem less threatening; and using food or a drink to express emotional support) are useful not only to those providing support but also to those currently seeking it; and, in a Queensland context, Male (1983), Bella (1984), and the Queensland Department of Education (1988) who all emphasize the importance of learning about human relationships within the formal school program.

The interpersonal skills area has already received some attention in the present chapter in the context of identifying the kinds of personal characteristics which help teachers to create less stressful environments for students (see pp. 152-154). Now the focus switches to the students themselves. Newman and Beehr (1979), Girdano and Everly (1986), Wehr and Kaufman (1987), and Blom, Cheney, and Snoddy (1986) all refer in some way to the importance of good interpersonal skills as mechanisms for coping with stress. For example, Newman and Beehr refer to research conducted by Silbergeld and Manderscheid (1976) which demonstrates the effectiveness of interpersonal skills training as a coping mechanism. Girdano and Everly refer to interpersonal effectiveness training as a important tool for

improving self-esteem and overcoming dysfunctional passivity and depression. Wehr and Kaufman report that their assertiveness training program used with Year 9 students resulted in "increased assertiveness and decreased state anxiety" (p.195). Finally, Blom, Cheney, and Snoddy attribute to stress-resistant children the interpersonal accomplishments listed in the following statement:

> Socially, these children are described as personable, sensitive to the feelings and needs of others, empathic, well liked by peers and adults, verbally fluent, well behaved in classrooms, and ready to help others. (Blom, Cheney, & Snoddy, 1986, p.144).

It was argued earlier that social support is a strong factor in helping adolescents to cope with stress. The kinds of interpersonal skills listed in the preceding statement would seem likely to attract social support and therefore to enhance the coping abilities of those adolescents who possess such skills.

In addition to the characteristics highlighted by Blom, Cheney, and Snoddy (1986) adolescents who are seeking to deal with stress effectively are also likely to need many of the interpersonal skills already listed on page 153, e.g.: friendliness, warmth, acceptance, genuineness, concreteness, assertiveness, honesty, fairness, and appropriate self-disclosure.... However, in creating a program for interpersonal skills development, a more academically rigorous approach than simply compiling endless lists of desirable skills would be to work within a general, subsuming framework such as the one developed by Adie (1988) from the work of such writers as Egan (1976), Johnson (1981), Adler, Rosenfeld, and Towne (1983), and Hamachek (1982), and including such over-riding categories as: relationship building skills; effective communication skills (both in transmission and receipt of information); the skills of challenging; and the skills of self-evaluation.

There is no shortage of practical programs designed to improve specific interpersonal skills. For example, there would be benefit for adolescents in studying the books mentioned in the previous paragraph. In addition, Nelson-Jones (1986) provides "training and self-help" in the development of a wide range of human relationship skills, including starting and developing relationships, becoming a good listener, and managing anger, stress, and conflict. Girdano & Everly (1986) include segments on interpersonal effectiveness training and assertiveness training. Silbergeld & Manderscheid (1976) seek to increase students' "ability to perceive, interpret, and express nonverbal communication and feeling" (Newman & Beehr, 1979, pp.31-32). Youngs (1986) presents ideas which can be used in teaching children assertiveness, communication and listening skills, and problem solving skills. Finally, a very rich source of class activities pertaining to the development of good interpersonal skills is the series entitled "A Handbook of Structured Experiences for Human Relations Training". For example, the ninth volume of this series, edited by Pfeiffer (1983), includes exercises which deal with shared decision making, group problem solving, and self-discovery and disclosure.

The preceding discussion is far from comprehensive. It would be impossible within the confines of the present paper to critically evaluate all of the ideas about coping which are contained in the extensive academic literature on stress. The discussion has covered several important orientations to stress management (e.g., the hardiness, self-efficacy, and locus of control orientation; the social support orientation; and the interpersonal skills orientation), but teachers who are looking for additional ideas should consult such authors as Girdano and Everly (1986), Youngs (1986), King, Stanley, and Burrows (1987), and Wehr and Kaufman (1987). Among these writers are found arguments and research in support of the usefulness of such

coping orientations and strategies as: psychotherapy, counselling, modelling, and systematic desensitization (Wehr & Kaufman, 1987); rational emotive therapy and stress innoculation (King, Stanley, & Burrows, 1987); learning time management skills and modifying Type A behaviour (Girdano & Everly, 1986; King, Stanley, & Burrows, 1987); and engaging in physical exercise (Girdano & Everly, 1986; Youngs, 1986; King, Stanley, & Burrows, 1987), vigorous and non-vigorous recreational activities (Mobily, 1982), and such related activities as progressive relaxation, yoga, and meditation (Girdano & Everly, 1986; Youngs, 1986).

For those readers who find such a diversity of coping strategies confusing and would like to see the field diminished in some way, perhaps it is important to consider the views of Stanton (1985) who suggests that it is not so much the specific approach that counts as the belief that the approach will work:

> Possibly, as I have pointed out elsewhere, it is all placebo (Stanton, 1979) in that people will achieve success in situations as long as they believe they can be successful. As Frank (1972) has argued, all we need to do to help people make more of themselves is to enhance their morale so they believe in their own ability to take control over their own environment. (Stanton, 1985, p.175).

Such a statement brings the discussion back to the hardiness, self-efficacy, and locus of control concepts. Teachers who wish to enhance their students' ability to cope with stress will seek ways to help them feel positively about themselves and believe in their ability to control their own lives and the world around them.

CHAPTER 7: CONCLUSION

In the present study, adolescent stress was found to be an issue worthy of research in the Australian context. The major problems identified by the participating adolescents generally related to the competitive and academic nature of secondary schooling in Queensland. Their most frequently acknowledged coping strategies were generally very positive attempts to deal with their problems, and revolved around trying to be independent and autonomous, seeking social support, and engaging in relaxing activities. All findings held across schools (public, Catholic and independent), grades (Years 8 to 12), achievement levels (excellent to way below average), and sexes.

Consideration of the above findings, and analysis of ways of reducing environmental stressors for adolescents and helping them improve their coping skills, have resulted in the following recommendations for dealing with the stressful nature of schooling in Queensland:

RECOMMENDATION 1:

That educational decision makers at all levels - from first year teachers to the Minister for Education - address, with a view to making whatever educational changes are required, the finding that the major school-related problems of many adolescents relate to the competitive and academic nature of secondary schooling in Queensland (pp. 146-149). *

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* The page numbers listed in brackets after each recommendation indicate the location in the present report of the discussion which spawned that particular recommendation.

RECOMMENDATION 2:

That adolescents be encouraged by teachers, parents, and other concerned adults to continue using (discriminatingly) the sorts of coping strategies which the present study identifies as the most frequently used coping behaviours of adolescents (p.150).

RECOMMENDATION 3:

That adults who are concerned with the development of adolescents seek to build better relationships and improved communications between themselves and adolescents (pp. 151-153).

RECOMMENDATION 4:

As a step towards fulfilling the previous recommendation, that teachers and other concerned adults seek to improve their interpersonal skills, particularly in the areas of warmth and communication (pp. 152-154).

RECOMMENDATION 5:

That consideration be given by the appropriate educational decision makers (e.g., the Minister for Education and the Board of Secondary School Studies) to ways of minimizing the restricting effects of tertiary entrance requirements on the secondary curriculum (e.g., by implementing the McGaw option of studying fewer academic subjects in Years 11 and 12) (pp. 154-159).

RECOMMENDATION 6:

That viable and respected alternatives to the competitive academic curriculum (e.g., providing a general, well-balanced, broadly-based education, and providing vocationally oriented courses for Year 11 and 12 students) be expanded in an effort to more frequently achieve a suitable match between students and courses than is currently the case (pp. 155-158).

RECOMMENDATION 7:

That all educators continually address, with a view to implementing whatever changes are deemed necessary, the question of interest and relevance in secondary education (p.156).

RECOMMENDATION 8:

That secondary education in Queensland continue to pursue the ideal of an education which is broad in scope and caters for the needs and interests of all adolescents (pp. 156-158).

RECOMMENDATION 9:

That schools seek to implement programs which will facilitate the development in students of such positive, stress-reducing characteristics as hardiness, self-efficacy, positive self-concept, and internal locus of control (p.159).

RECOMMENDATION 10:

That schools seek to facilitate among students the growth of a personal sense of efficacy and control by involving them in the decision-making process, both in relation to the running of the school and in relation to selecting their own educational goals and outcomes (p.159).

RECOMMENDATION 11:

That the Queensland Government, through such agencies as the Queensland Education Department and the Department of Technical and Further Education, seek to expand the senior college network so that all Queensland students can be offered the opportunity to attend such institutions (p.161).

RECOMMENDATION 12:

That all secondary schools, whether they be senior colleges, junior high schools, or traditional high schools, seek to establish a positive climate in which

there is mutual respect between teachers and students, a wide choice of interesting and relevant subjects, and a perception among both students and teachers that they are engaged in worthwhile activities (p.161).

RECOMMENDATION 13:

That special care be taken, in conjunction with any expansion of the junior high school sector, to ensure that schooling for younger adolescents is based on philosophies, objectives, and curriculums which address the needs and interests of that age group (p.161).

RECOMMENDATION 14:

That schooling for early adolescents, whether it take place in junior high schools or in regular high schools, consist of a general education which takes account of the social, emotional, physical, and intellectual needs of early adolescents and caters for individual differences in their interests and abilities (pp. 162-163).

RECOMMENDATION 15:

That both state and federal governments increase their expenditure on education to a figure (say nine percent of GNP) which is more in line with the spending of such countries as Sweden, Norway, and Canada (p.164).

RECOMMENDATION 16:

That both state and federal governments significantly increase the funding of tertiary education in Queensland with a view to substantially increasing the number of places in tertiary courses for students graduating from high school (p.164).

RECOMMENDATION 17:

That schools implement programs aimed at helping students to develop effective strategies for coping with stress (pp. 164-168).

RECOMMENDATION 18:

That teachers acknowledge and encourage the existence and development of adolescent peer group networks as valid and useful sources of coping assistance for their students (pp. 168-170).

RECOMMENDATION 19:

That schools implement programs aimed at developing the interpersonal skills of their students (pp. 170-172).

Although the preceding recommendations have been derived mainly from the discussions presented in Chapter 6, many of them also relate to the major adolescent problems identified in Chapter 5 (see pp. 99 to 107). For example, Recommendations 3 and 4, which deal with improving teachers' interpersonal skills, relate to the problem of "being expected to act like an adult without being given adult privileges". Recommendations 7 and 8, which focus on interest and relevance in education, relate to the problem of "boring lessons". Recommendation 10, which emphasizes the importance of developing a personal sense of efficacy and control, relates to "no say for students in how the school is run", "worrying about whether I will be able to get a job when I leave school", and "worrying about whether I will get into the tertiary course of my choice". Finally, Recommendation 16, which deals with the question of increased funding for tertiary education, addresses such problems as "too much competition for T.E. scores" and "worrying about whether I will get into the tertiary course of my choice".

Since the discussions of Chapter 6 are a direct response to the data of Chapter 5, there is nothing very surprising about the conclusions reached in the previous paragraph. However, although Chapter 6 seeks to achieve a synthesis of the findings of the present study, it should not be regarded as the present study's only source of

recommendations about secondary education in Queensland. For example, the following additional recommendations have been derived directly from a consideration of the problems listed in Chapter 5:

RECOMMENDATION 20 (re. "Boring lessons" and "Badly worded assignment topics"):
That teachers be given more preparation time and fewer classes so that they can put more time into developing high quality learning experiences for students.

RECOMMENDATION 21 (re. "Boring lessons"):
That additional funds be made available to schools for the upgrading of equipment and resources.

RECOMMENDATION 22 (re. "Studying for examinations" and "Examinations"):
That students be given very specific instruction in the skills of studying, and that where necessary secondary schools provide opportunities for students to acquire the skills of literacy and numeracy.

RECOMMENDATION 23 (re. "Worrying about whether I will be able to get a job when I leave school"):
That secondary schools, as a consequence of increased consultation with industry, seek to place greater emphasis on the types of skills which will enhance students' employment prospects.

RECOMMENDATION 24 (re. "Worrying about whether I will be able to get a job when I leave school"):
That governments in Australia continue to pursue economic policies which encourage the expansion of Australian industries and the employment of young Australians.

RECOMMENDATION 25 (re. "Teachers who cover the material so quickly that I have trouble keeping up"):
That greater efforts be made by secondary schools (e.g., through smaller classes and the use of computers) to provide more individualized programs of instruction for students.

RECOMMENDATION 26 (re. "Students who disrupt lessons, making it difficult for other students to learn"):
That teachers in schools where student discipline is a problem seek to implement a unified approach to discipline - using, for example, reality therapy and control theory (Glasser, 1969; 1975; 1986) - which is based on mutual respect between students and teachers and recognizes the democratic rights of both students and teachers.

RECOMMENDATION 27 (re. "Never having enough money"):
That more opportunities be created for older adolescents to pursue their secondary education on a part-time rather than full-time basis.

RECOMMENDATION 28 (re. "Examinations"):
That steps be taken to ensure that examinations always occur on pre-announced dates and that students are thoroughly briefed before each examination about its specific focus and what is expected of them.

RECOMMENDATION 29 (re. "Being expected to act like an adult without being given adult privileges"):
That administrators and teachers in secondary schools - in consultation with students and parents - regularly review their school and class rules to ensure that they are appropriate to the increasing maturity of their students.

Recommendations 1 to 29 are addressed mainly to schools, teachers, students, parents, and governments. They do not deal directly with the implications of the present research for teacher educators. Yet it seems almost self-evident that if student-teachers are to be adequately prepared to work effectively in Australian secondary schools, their training needs to take account of the kind of information contained in the present paper. For this reason, it is important to make one final recommendation which is directed at the people who train teachers:

RECOMMENDATION 30:

That teacher educators take account of the findings presented in this report and seek ways of helping future teachers to develop attitudes and skills which will facilitate the implementation of Recommendations 1 to 29.

The data gathered during the course of this project constitute a rich but as yet only partially used source of information about adolescents' problems and coping strategies. Many more analyses remain to be done and reported on. Future reports could focus in much greater depth on specific sub-groups and their responses to particular items in the questionnaires. For example, comparisons might be made of the overall response patterns of Ss selecting the rating "7" and Ss selecting the rating "1" on such AAPI items as "Examinations", "Too much competition for T.E. scores", and "Worrying about whether I will get into the tertiary course of my choice". Comparisons could be made of the responses to the AAPI and the ACI of Ss with very high GHQ-12 scores and Ss with very low GHQ-12 scores. Further comparisons might be based on ethnicity, home address, term address, family type, family size, birth order, and academic aspirations. Use could be made of Ss' open-ended responses to the questions: "What is the most difficult problem you have faced during the past year?" and

"Briefly describe what you did to try to cope with your most difficult problem during the past year". More in-depth analyses could be made of the data of single schools or single classes. Attention might also focus on individual cases which seem particularly interesting. The possibilities for further development of the work outlined in the present paper seem almost endless.

Going beyond the present research, future studies of the problems and stresses of adolescence might well involve the use of interviews to seek the reactions of adolescents, along with their parents and teachers, to the findings contained in the present study. Special interest might focus on areas where the present findings appear not to match the views expressed elsewhere in the literature on adolescent development. For example, why did Ss in the present study give such a low problem rating to the item, "Abuse of such substances as drugs, alcohol, and cigarettes", and why are "Smoking" and "Drinking alcohol" given such low ratings as coping behaviours? Were the current Ss answering accurately, or were they merely giving what they perceived to be socially acceptable responses? Other useful directions for future research would include refining the instruments used in the present study and deriving from the AAPI a shorter instrument which could be used to identify adolescents who were suffering excessive amounts of school-related stress. It would also be desirable to collect data from a greater diversity of settings (e.g., metropolitan, country, interstate, and even international). Finally, following implementation in Queensland schools of the sorts of recommendations listed in this chapter, it would be important to gather new data to assess the extent to which such changes had impacted on the stress levels, problems, and coping strategies of Queensland secondary students.

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APPENDIX 1: INSTRUMENTS

1. Letter of explanation to participants.

2. Australian Adolescent Problems Inventory (AAPI).

3. Adolescent Coping Inventory (ACI).

4. General Health Questionnaire (GHQ-12).

5. Biographical Information (BI).

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18th April, 1988.

Dear Student,

Thank you for participating in this survey.

The purpose of the project is to find out more about the way adolescents feel about school and about life in general. In particular, the questionnaires contained in this booklet seek answers to the questions:

1. What problems do adolescents have to deal with in their day-to-day lives?

2. How do adolescents cope with these problems?

As you work your way through this booklet, it is extremely important that you answer every question accurately and honestly. There are no right or wrong answers. All you are required to do is to write what is true for you.

I will remain here as you work through the booklet. If at any point you are not sure what to do, raise your hand and I will help you.

Your answers will be kept strictly confidential. You are not required to write your name on the booklet, and your booklet will not be shown to your teachers, your parents, or your friends and acquaintances.

It is hoped that the knowledge gained from this study will help teachers, parents, and youth workers to work more effectively with adolescents.

Thank you again for your help. If you would like to know more about this study, please feel welcome either to write to me, c/- Kelvin Grove Campus, Brisbane College of Advanced Education, or to phone me on 352 8270 or 202 6796.

Yours sincerely,

John Fanshawe.

AUSTRALIAN ADOLESCENT PROBLEMS INVENTORY

This questionnaire includes 68 problems, or hassles, which are frequently identified as troubling Australian high school students. Please read each item carefully, and then indicate the extent to which the situation described is a problem for you - not for your friends, not for adolescents in general, but for you personally. Do this by circling one of the numbers from "1" to "7" on each of the scales provided.

Throughout the questionnaire, your selection of the number to circle should be based on the following scoring scheme:

No problem at all			A medium sized problem			A very big problem
1	2	3	4	5	6	7

If a statement refers to something that is a very big problem for you, circle the number "7". If a statement refers to something which is definitely <u>not</u> a problem for you, circle the number "1". If a statement refers to a problem which you regard as one of your medium-sized problems, circle the number "4". Use either "5" or "6" to indicate problems which are worse than a medium-sized problem but not as bad as a very big problem, and either "2" or "3" to indicate problems which are less intense than a medium-sized problem but which are still problems.

Please work quickly but carefully. There are no right or wrong answers, but it is important that you give accurate responses.

Your answers will be kept strictly confidential and will not be revealed to your teachers.

Make sure that you give an answer to every item.

.....

To what extent is each of the following a problem for you?

	No problem at all						A very big problem
1. Too much pressure from my teachers to do well in school	1	2	3	4	5	6	7
2. Subjects which are not relevant to my needs and interests	1	2	3	4	5	6	7
3. School discipline is too strict	1	2	3	4	5	6	7
4. Being expected to act like an adult without being given adult privileges	1	2	3	4	5	6	7

To what extent is each of the following a problem for you?

	No problem at all						A very big problem
5. Studying for examinations	1	2	3	4	5	6	7
6. Giving a wrong answer in class	1	2	3	4	5	6	7
7. Getting along with my peers	1	2	3	4	5	6	7
8. Not being allowed to make my own decisions	1	2	3	4	5	6	7
9. Trying to decide what I really want to do with my life	1	2	3	4	5	6	7
10. Lessons where teachers keep on going after the bell	1	2	3	4	5	6	7
11. Too much assessment in school	1	2	3	4	5	6	7
12. Surprise tests	1	2	3	4	5	6	7
13. Crowded classrooms	1	2	3	4	5	6	7
14. Note-taking in class	1	2	3	4	5	6	7
15. Developing more slowly than my friends	1	2	3	4	5	6	7
16. Hot classrooms	1	2	3	4	5	6	7
17. Noisy classrooms	1	2	3	4	5	6	7
18. Classes where students are required to mark one another's work	1	2	3	4	5	6	7
19. Too much homework	1	2	3	4	5	6	7
20. Too much pressure from my parents to do well in school	1	2	3	4	5	6	7
21. Poor classroom lighting	1	2	3	4	5	6	7

To what extent is each of the following a problem for you?

	No problem at all						A very big problem
22. Teachers who seem unable to explain just what their classes are intended to achieve	1	2	3	4	5	6	7
23. Badly worded assignment topics	1	2	3	4	5	6	7
24. Organizing my time effectively	1	2	3	4	5	6	7
25. Getting along with older people	1	2	3	4	5	6	7
26. Relationships with the opposite sex	1	2	3	4	5	6	7
27. Examinations	1	2	3	4	5	6	7
28. Going to the wrong class	1	2	3	4	5	6	7
29. Developing more quickly than my friends	1	2	3	4	5	6	7
30. Being asked to answer a question in class when I don't know the answer	1	2	3	4	5	6	7
31. Forgetting materials needed for a lesson (e.g., notebook, pen, pencils)	1	2	3	4	5	6	7
32. Students who disrupt lessons, making it difficult for other students to learn	1	2	3	4	5	6	7
33. Buying textbooks	1	2	3	4	5	6	7
34. Missing classes	1	2	3	4	5	6	7
35. Learning new skills	1	2	3	4	5	6	7
36. Foreign language classes where it is hard to understand what the teacher is saying	1	2	3	4	5	6	7
37. Being picked on by other students	1	2	3	4	5	6	7

To what extent is each of the following a problem for you?

	No problem at all						A very big problem
38. Waiting for final results (e.g., Junior Certificate, T.E. Score)	1	2	3	4	5	6	7
39. Getting along with my parents	1	2	3	4	5	6	7
40. Worrying about whether I will be able to get a job when I leave school	1	2	3	4	5	6	7
41. Boring lessons	1	2	3	4	5	6	7
42. Classes where everyone is expected to participate in class discussion	1	2	3	4	5	6	7
43. Cold classrooms	1	2	3	4	5	6	7
44. No say for students in how the school is run	1	2	3	4	5	6	7
45. Arriving late for class	1	2	3	4	5	6	7
46. Having problems with my leisure and social activities	1	2	3	4	5	6	7
47. Teachers who cover the material so quickly that I have trouble keeping up	1	2	3	4	5	6	7
48. Having to give a talk in front of the whole class	1	2	3	4	5	6	7
49. Putting too much pressure on myself to do well in school	1	2	3	4	5	6	7
50. Forgetting to do an assignment	1	2	3	4	5	6	7
51. Having to go to school	1	2	3	4	5	6	7
52. Getting along with my teachers	1	2	3	4	5	6	7
53. Abuse of such substances as drugs, alcohol, and cigarettes	1	2	3	4	5	6	7

To what extent is each of the following a problem for you?

	No problem at all						A very big problem
54. Being treated unfairly by one or more of my teachers	1	2	3	4	5	6	7
55. School discipline is not strict enough	1	2	3	4	5	6	7
56. Too much competition for T.E. scores	1	2	3	4	5	6	7
57. Never having enough money	1	2	3	4	5	6	7
58. Writing assignments	1	2	3	4	5	6	7
59. Feeling negatively about myself	1	2	3	4	5	6	7
60. Class tests at prearranged times during the semester	1	2	3	4	5	6	7
61. Getting along with my brothers and sisters	1	2	3	4	5	6	7
62. Waiting for exam results	1	2	3	4	5	6	7
63. Having to wear a school uniform	1	2	3	4	5	6	7
64. Not being treated like an adult	1	2	3	4	5	6	7
65. Having difficulty controlling my feelings	1	2	3	4	5	6	7
66. Worrying about whether I will get into the tertiary course of my choice	1	2	3	4	5	6	7
67. Not completing an assignment by the due date	1	2	3	4	5	6	7
68. Learning the wrong material for a test	1	2	3	4	5	6	7

69. What is the most difficult problem you have faced during the past year?

.....

.....

.....

.....

70. Briefly describe what you did to try to cope with your most difficult problem during the past year.

.....

.....

.....

.....

.....

.....

71. How successful were you in dealing with your most difficult problem during the past year? (Tick ONE of the following.)

..... Very unsuccessful

..... Unsuccessful

..... Neither successful nor unsuccessful

..... Successful

..... Very successful

ADOLESCENT COPING INVENTORY: FORM B

(Adapted from A-COPE by Patterson & McCubbin, 1987)

This questionnaire seeks information about how adolescents react to the problems of day-to-day living. Please read each item carefully and then indicate the extent to which you personally use each of the behaviours when you are faced with a problem. Do this by circling one of the numbers from "1" to "7" on each of the scales provided.

Throughout the questionnaire, your selection of the number to circle should be based on the following scoring scheme:

1: I never behave in this way
2: I hardly ever behave in this way
3: I only occasionally behave in this way
4: I sometimes behave in this way
5: I often behave in this way
6: I nearly always behave in this way
7: I always behave in this way

Please work quickly but carefully. There are no right or wrong answers, but it is important that you give accurate responses.

Your answers will be kept strictly confidential.

Make sure that you give an answer to every item.

.....

	NEVER			SOMETIMES			ALWAYS
When I have a problem, I							
1. go along with my parents' requests and rules	1	2	3	4	5	6	7
2. read something to take my mind off the problem	1	2	3	4	5	6	7
3. try to be funny and make light of it all	1	2	3	4	5	6	7
4. apologize to people	1	2	3	4	5	6	7
5. listen to music - stereo, radio, etc.	1	2	3	4	5	6	7
6. talk to a teacher or counsellor at school about what bothers me	1	2	3	4	5	6	7
7. eat food	1	2	3	4	5	6	7

When I have a problem, I	NEVER			SOMETIMES			ALWAYS
8. try to stay away from home as much as possible	1	2	3	4	5	6	7
9. use drugs prescribed by a doctor	1	2	3	4	5	6	7
10. get more involved in activities at school	1	2	3	4	5	6	7
11. go shopping and buy things I like	1	2	3	4	5	6	7
12. try to reason with my parents and reach a compromise	1	2	3	4	5	6	7
13. try to improve myself (e.g., get my body in shape, get better marks, etc.)	1	2	3	4	5	6	7
14. cry	1	2	3	4	5	6	7
15. try to think of the good things in my life	1	2	3	4	5	6	7
16. spend time with a boyfriend or girlfriend	1	2	3	4	5	6	7
17. ride around in the car	1	2	3	4	5	6	7
18. say nice things ("warm fuzzies") to others	1	2	3	4	5	6	7
19. get angry and yell at people	1	2	3	4	5	6	7
20. joke and keep a sense of humour	1	2	3	4	5	6	7
21. talk to a minister, priest, or rabbi	1	2	3	4	5	6	7
22. let off steam by complaining to family members	1	2	3	4	5	6	7
23. go to church	1	2	3	4	5	6	7
24. use drugs (not prescribed by a doctor)	1	2	3	4	5	6	7

When I have a problem, I	NEVER			SOMETIMES			ALWAYS
25. try to get more organized and sort out my priorities	1	2	3	4	5	6	7
26. swear	1	2	3	4	5	6	7
27. work hard on schoolwork or school projects	1	2	3	4	5	6	7
28. blame others for what's going wrong	1	2	3	4	5	6	7
29. spend time with someone I care about	1	2	3	4	5	6	7
30. try to help other people solve their problems	1	2	3	4	5	6	7
31. talk to my mother about what bothers me	1	2	3	4	5	6	7
32. try, on my own, to figure out how to deal with my problems	1	2	3	4	5	6	7
33. try to forget the problem by working on a hobby (e.g., sewing, model building, etc.)	1	2	3	4	5	6	7
34. seek professional counselling (not from a teacher or a school counsellor)	1	2	3	4	5	6	7
35. try to keep up friendships or make new friends	1	2	3	4	5	6	7
36. tell myself the problem(s) is not important	1	2	3	4	5	6	7
37. go to a movie	1	2	3	4	5	6	7
38. daydream about how I would like things to be	1	2	3	4	5	6	7
39. talk to a brother or sister about how I feel	1	2	3	4	5	6	7
40. try to get a part-time job or work harder at the one I have	1	2	3	4	5	6	7
41. do things with my family	1	2	3	4	5	6	7

When I have a problem, I	NEVER			SOMETIMES			ALWAYS
42. smoke	1	2	3	4	5	6	7
43. watch T.V.	1	2	3	4	5	6	7
44. pray	1	2	3	4	5	6	7
45. try to see the good things in a difficult situation	1	2	3	4	5	6	7
46. drink alcohol (e.g., beer, wine, liquor)	1	2	3	4	5	6	7
47. try to make my own decisions	1	2	3	4	5	6	7
48. sleep more than I normally do	1	2	3	4	5	6	7
49. say mean things to people	1	2	3	4	5	6	7
50. talk to my father about what bothers me	1	2	3	4	5	6	7
51. let off steam by complaining to my friends	1	2	3	4	5	6	7
52. talk to a friend about how I feel	1	2	3	4	5	6	7
53. play video games (Space Invaders, Pac-Man), pool, pinball, etc.	1	2	3	4	5	6	7
54. do a strenuous physical activity (jogging, biking, etc.)	1	2	3	4	5	6	7

GENERAL HEALTH QUESTIONNAIRE

On each of the following twelve questions, please circle the response (A, B, C, or D) which most closely represents the way you have felt during the past few weeks.

In the past few weeks, have you ...

1. been able to concentrate on whatever you're doing?
   - A better than usual
   - B same as usual
   - C less than usual
   - D much less than usual

2. lost much sleep over worry?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

3. felt that you're playing a useful part in things?
   - A more so than usual
   - B same as usual
   - C less so than usual
   - D much less than usual

4. felt capable of making decisions about things?
   - A more so than usual
   - B same as usual
   - C less so than usual
   - D much less than usual

5. felt constantly under strain?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

6. felt that you couldn't overcome your difficulties?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

In the past few weeks, have you ...

7. been able to enjoy your normal day-to-day activities?
   - A more so than usual
   - B same as usual
   - C less so than usual
   - D much less than usual

8. been able to face up to your problems?
   - A more so than usual
   - B same as usual
   - C less so than usual
   - D much less than usual

9. been feeling unhappy and depressed?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

10. been losing confidence in yourself?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

11. been thinking of yourself as a worthless person?
   - A not at all
   - B no more than usual
   - C rather more than usual
   - D much more than usual

12. been feeling reasonably happy all things considered?
   - A more so than usual
   - B same as usual
   - C less so than usual
   - D much less than usual

BIOGRAPHICAL INFORMATION

Please provide the following information about yourself.

1. SCHOOL: .....

2. GRADE: .....

3. DATE OF BIRTH: .....

4. Are you MALE or FEMALE? .....

5. What is the MAIN LANGUAGE spoken in your home? .....

6. What are the occupations of each of your parents?
   (Please be specific. For example: primary school teacher, home duties, clerk in public service, part-time secretarial work, etc.)

   FATHER: ..... MOTHER: .....

   ....

   ....

7. What is the name of the town or city where your home is located? .....

8. Where do you live during the school term?
   (Tick one of the following.)

   ..... at home

   ..... at boarding school

   ..... at a hostel

   ..... staying with relatives

   ..... boarding with someone who is not a relative

   ..... other (Please specify: .....

   .....)

9. Without actually writing down their names, make a list of the people who live in your house when the whole family is at home. In brackets after each child, indicate his/her age.
   Some lists may be quite short: e.g., mother, father, self (15). Others may be quite complicated: e.g., mother, step-father, grandmother, uncle, brother (21), sister (18), self (15), brother (14), step-sister (15), step-brother (11), half-brother (7)

   .....

   .....

   .....

10. Considering the marks that you have obtained in school over the past year, how well do you think you rate as a student?
(Tick one of the following.)

..... Excellent

..... Very good

..... Good

..... Average

..... Below average

..... Way below average

11. Do you hope to continue your formal education after leaving school?
(Tick one of the following.)

..... yes

..... no

..... not sure

12. What do you think you will be doing five years after you leave school?
(Tick all items which you think will apply to you.)

..... studying or training

..... working in the job of my dreams

..... working in a job I am enjoying

..... working in a job I probably won't be enjoying

..... travelling

..... married

..... working at home as a house-wife (or house-husband)

..... doing unpaid work outside the home (e.g., community service)

..... unemployed but actively looking for a job

..... unemployed and not looking for a job

..... not sure

..... other (Please specify: .....

.....)

APPENDIX 2

INSTRUCTIONS TO TEACHERS WHO ASSISTED IN ADMINISTERING THE SURVEY INSTRUMENTS AT INDEPENDENT LADIES' COLLEGE

Brisbane College
of Advanced Education
Telex: CABCAE 145355
Fax: (07) 352 8529 BRISCAE

Kelvin Grove Campus
Victoria Park Road
Locked Bag No. 2
Kelvin Grove O Australia 4059
Ph: (07) 352 8111
Direct: (07) 352 8.....

Re:

26th April, 1988.

Dear Teachers,

Thank you very much for agreeing to help with the administration of the enclosed questionnaires. This is a real bonus in terms of collecting a lot of data in a short period of time!

The purpose of today's exercise is for each student, working at her own pace, to complete all four parts of the survey booklet in a single period. In order to help the students get started, I think it would be desirable for you to:

1. Read to the students the letter which is attached to the front of the booklet. (Paragraph 4 of the letter is no longer accurate, but I will be in the social staff room to receive your calls if any problems arise.)

2. Explain to the students the instructions on Page 1 of the questionnaire, ensuring that they understand the "1-7" scoring continuum.

3. Tell the students to keep on going once they have completed each section. The faster students should not wait for the slower students to catch up.

4. Make an unobtrusive check that students are proceeding in the correct way.

5. Answer students' questions about procedure as they arise.

6. Encourage students to work quickly but accurately. They shouldn't spend too long on any one item.

7. If students are still working five minutes before the end of the period, tell them to skip to pages 13 and 14 (Biographical Information). The information on those last two pages is vital for the statistical analyses which are to be conducted.

8. Could you please place the completed booklets in the envelope and return them to the social staff room?

Thank you once again for your help. I have enclosed one or two extra copies of the questionnaire for you to keep in case you wish to conduct follow-up discussions with your classes, or perhaps conduct research of your own.

Yours sincerely,

John Fanshawe.
Lecturer, Psychology Department,
Kelvin Grove Campus, Brisbane CAE.

APPENDIX 3

DETAILED LISTINGS OF DATA ANALYSES EMPLOYED

ADOLESCENT PROBLEMS QUESTIONNAIRES:
DATA ANALYSES USING NONPARAMETRIC STATS

REVISED 9TH SEPTEMBER, 1988

1. ALL ANALYSES LISTED IN SECTIONS 2-8 SHOULD BE REPEATED FOR EACH OF THE SETS OF DATA (I to IV) IDENTIFIED IN THIS FIRST SECTION:

I. Each school considered separately (WARREGO S.H.S., MARANOA S.H.S., DIAMANTINA S.H.S., INDEPENDENT LADIES COLLEGE, INDEPENDENT BOYS' COLLEGE, CATHOLIC LADIES' COLLEGE, CATHOLIC BOYS' COLLEGE):

(a) Compare Years 8 through 12.
CATEGORIES: 08, 09, 10, 11, 12

(b) Comparisons based on home address [ILC and IBC only].
CATEGORIES: 01 = Brisbane
02 = Provincial City
03 = Country

(c) Comparisons based on term address [ILC and IBC only].
CATEGORIES: 01 = At Home
02 = Boarder

(d) Comparisons based on family type.
CATEGORIES: 01 = Nuclear Families
05 = Sole-Parent Families

(e) Comparisons based on birth order.
CATEGORIES: 01, 02, 03

(f) Comparisons based on family size.
CATEGORIES: 01, 02, 03, 04+

(g) Comparisons based on academic competence.
CATEGORIES: 01 & 02 = Excellent/Very Good
03 = Good
04 = Average
05 & 06 = Below Average/Way Below Average

(h) Comparisons based on academic aspirations.
CATEGORIES: 01 = Yes
02 & 03 = No/Not Sure

(i) All students sampled from each school
[CHI SQUARE ANALYSIS NOT APPROPRIATE]

(j) Compare males and females within single schools (WSHS, MSHS, and DSHS only).
CATEGORIES: 01 = Males
02 = Females

II. <u>All Ss from all schools combined</u>:

(a) Compare Years 8 through 12.
CATEGORIES: 08, 09, 10, 11, 12.

(b) Compare males and females.
CATEGORIES: 01 = Males
02 = Females

(c) Compare Ss whose home language is not English with Ss whose home language is English.
CATEGORIES: 01 = English
02 = Other

(d) Comparisons based on family type.
CATEGORIES: 01 = Nuclear
03 = Blended
05 = Sole-Parent (Mother)

(e) Comparisons based on birth order.
CATEGORIES: 01, 02, 03, 04, 05+

(f) Comparisons based on family size.
CATEGORIES: 01, 02, 03, 04, 05, 06+

(g) Comparisons based on academic competence.
CATEGORIES: 01 = Excellent
02 = Very Good
03 = Good
04 = Average
05 & 06 = Below Average/Way Below Average

(h) Comparisons based on academic aspirations.
CATEGORIES: 01 = Yes
02 = No
03 = Not Sure

(i) All Ss from all schools combined.
[CHI SQUARE ANALYSIS NOT APPROPRIATE]

III. Each school "system" considered as a separate entity:
System 1: ILC and IBC combined.
System 2: CLC and CBC combined.
System 3: WSHS, MSHS, DSHS combined.

(a) All Ss within each system (3 separate sets of analyses).
[CHI SQUARE ANALYSES NOT APPROPRIATE]

(b) Compare Years 8 through 12 within each system (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 08, 09, 10, 11, 12

(c) Compare males and females (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 01 = Males
02 = Females

(d) Comparisons based on birth order (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 01, 02, 03

(e) Comparisons based on family size (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 01, 02, 03, 04+

(f) Comparisons based on academic competence (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 01 & 02 = Excellent/Very Good
03 = Good
04 = Average
05 & 06 = Below Average/Way Below Average

(g) Comparisons based on academic aspirations (separate analyses for Systems 1, 2, and 3).
CATEGORIES: 01 = Yes
02 & 03 = No/Not Sure

IV. COMPARISONS OF THE THREE "SYSTEMS":

(a) All students in system 1 v. all students in system 2 v. all students in system 3.

(b) Comparisons of each grade across the three systems, i.e.,
Year 8: System 1 v. system 2 v. system 3 - similar comparisons for each of the other year levels.

(c) Comparisons of sexes across systems, i.e.,
Females: System 1 v. system 2 v. system 3
Males: System 1 v. system 2 v. system 3

2. ITEMS 1-68 (pp.1-5):

(a) Calculate mean rating on each item for each group listed in "1".

(b) For each group, list problems (1-68) in order of importance, from the biggest to the least.

(c) Calculate Spearman rank-order correlations for all possible pairings of groups within each of the categories listed in "1".

(d) Calculate Spearman rank-order correlations between selected items on AAPI and the corresponding items from Kohn & Frazer's Academic Stress Scale.

(e) Using year levels as the rows, each of the other groupings listed in "1" as the columns, and mean ratings as the cells, calculate Friedman's 2-way analysis of variance by ranks on each of items 1-68.

(f) For each group, on each of items 1-68, do a frequency count for each of the ratings, 1-7.

(g) For each of the categories listed in Section 1 above, do a chi square analysis on each of items 1-68, comparing the frequency of selection of each of the seven ratings by each appropriate group.

(h) Place items 1-68 into the 11 categories which subsume them (e.g., PRESSURE/WORKLOAD, FUTURE. FEELING VULNERABLE, PERSONAL ORGANIZATION) and do a series of Kruskal-Wallis analyses to test for significant differences among the groups of ratings.

(i) Calculate average rating for each of the 11 categories and rank order.

(j) Calculate a problems score for each S (sum of ratings for items 1-68).

3. ITEM 69 (page 6):

(a) Do frequency counts and chi square analyses for each category listed in Section 1.

(b) Use Spearman's rank-order correlation to compare the 11 rankings obtained in 2(i) with the frequencies obtained for Item 69.

4. ITEM 70 (p.6):

(a) Do frequency counts and chi square analyses for each category listed in Section 1.

(b) Use Spearman's rank-order correlations to compare the 12 rankings calculated in 6(i) with the frequencies obtained for Item 70.

5. ITEM 71 (p.6):

(a) Do a series of chi square analyses of the ratings frequencies (5-point scale) for each of the coping responses listed in Item 70.

6. COPING STRATEGIES: Items 1-54 (pp.7-10):

(a) Calculate mean ratings on each item for each group listed in "1".

(b) For each group, list coping strategies (1-54) in order of importance from the highest to the lowest. (See comment following "2(b)".)

(c) Calculate Spearman rank-order correlations for all possible pairings of groups within each of the categories listed in Section 1.

(d) Using year levels as the rows, each of the other groupings listed in "1" as the columns, and mean ratings as the cells, calculate Friedman's 2-way analysis of variance by ranks on each of items 1-54.

(e) For each group, do a frequency count for each of the ratings from 1 to 7.

(f) For each of the categories listed in Section 1, do a chi square analysis on each of items 1-54, comparing the frequency of selection of each of the seven ratings by each appropriate group.

(g) Place items 1-54 into the 12 categories listed by Patterson & McCubbin (1987) (e.g., DEVELOPING SELF-RELIANCE, DEVELOPING SOCIAL SUPPORT, SEEKING PROFESSIONAL SUPPORT, ENGAGING IN DEMANDING ACTIVITY, etc.) and do a series of Kruskal-Wallis analyses to test for significant differences among the groups of ratings.

(h) Calculate average ratings for each of the 12 categories and rank order.

(i) Using the 12 categories, calculate Spearman rank-order correlations between the Australian Ss and the American Ss who appeared in Patterson & McCubbin's (1987) study.

7. GENERAL HEALTH QUESTIONNAIRE (Items 1-12 on pp.11-12):

(a) Calculate GHQ scores for each S.

(b) Frequency count of GHQ scores for each group.

(c) GHQ means for each group.

(d) Kruskal-Wallis analyses for each group.

(e) Using chi square, compare the GHQ scores of high problems Ss (top 25%) with the GHQ scores of low problems Ss (bottom 25%).

8. ANALYSIS OF THE QUESTION, "What do you think you will be doing five years after you leave school?":

(a) For all the groupings listed in Section A, do a frequency count of Ss' responses to each item.

(b) Also give frequencies as percentages.

9. FURTHER ANALYSES (not following the lists in Section 1):

(a) Problems (Items 1-68 on pp.1-5): Do a series of Friedman's 2-way ANOVAs using WSHS, MSHS, DSHS, ILC, IBC, CLC, and CBC as the columns, mean ratings as the cells, and, as rows in successive calculations: (i) year levels, (ii) family type, (iii) birth order, (iv) family size, (v) academic competence, (vi) academic aspirations.

(b) Coping Strategies (Items 1-54 on pp.7-10): Do a series of Friedman's 2-way ANOVAs using WSHS, MSHS, DSHS, ILC, IBC, CLC, and CBC as the columns, mean ratings as the cells, and, as rows in successive calculations: (i) year levels, (ii) family type, (iii) birth order, (iv) family size, (v) academic competence, (vi) academic aspirations.

(c) General Health Questionnaire (Items 1-12 on pp.11-12): Do a series of Friedman's 2-way ANOVAs using WSHS, MSHS, DSHS, ILC, IBC, CLC, and CBC as the columns, mean ratings as the cells, and, as rows in successive calculations: (i) year levels, (ii) family type, (iii) birth order, (iv) family size, (v) academic competence, (vi) academic aspirations.